JVC

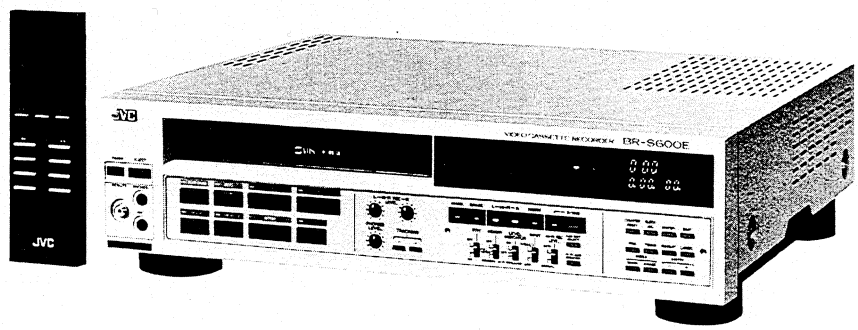
SERVICE MANUAL

VIDEO CASSETTE RECORDER

BR-S600E

Hi-Fi

S-VHS 625 VHS PAL



SPECIFICATIONS

GENERAL

Format	: VHS · S-VHS standard
Tape width	: 12.65 mm (1/2 inch)
Tape speed	: 23.39 mm/s (SP)
Recording & Playback time	: 180 min. with JVC SE-180 or E-180 (SP) 360 min. with JVC SE-180 or E-180 (LP) (Playback only)
Operating temperature	: 5°C to 40°C
Operating humidity	: Less than 80% R.H.
Storage temperature	: –20°C to 60°C
Power consumption	: 30 watts
Power requirement	: AC 220–240 V ~ 50/60 Hz
Dimensions	: 435 mm(W) x 124 mm(H) x 370 mm(D) (Excluding protrusions)
Weight	: 7.5 kg
Fast forward/Rewind time	: Within 4.0 min. for 180 min. tape

VIDEO

Recording and Playback system		: Rotary four head, herical scanning system Luminance: FM recording Colour: Down converted direct recording
Video signal system		: PAL-type colour signal/PAL-type Y/C signal
Input	line video	: 0.5 ~ 2.0 Vp-p, 75 ohms, unbalanced
	Y/C443	: Y: 0.8 ~ 1.2 Vp-p, 75 ohms, unbalanced C: 0.2 ~ 0.4 Vp-p, 75 ohms, unbalanced (Burst)
Output	line video	: 1.0 Vp-p, 75 ohms, unbalanced
	Y/C443	: Y: 1.0 Vp-p, 75 ohms, unbalanced C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)
Signal-to-noise ratio		: 43 dB
Horizontal resolution		: 400 lines (S-VHS) : 250 lines (VHS)

AUDIO

Input	(line)	: –8 dBs, 50 k-ohms, unbalanced (Normal, Hi-Fi)
	(microphone)	: –67 dBs, high impedance
Output	level (line)	: –6 dBs, 1 k-ohms, unbalanced (Normal, Hi-Fi)
Signal-to-noise ratio		: 40 dB (Normal)
Dynamic range		: 85 dB (Hi-Fi/SP)
Frequency response		: 70 to 10.000 Hz ±6 dB (Normal) 20 to 20.000 Hz ±6 dB (Hi-Fi)
Wow and flutter		: Less than 0.008% wrms (Hi-Fi)

ACCESSORIES : Remote control unit x 1
"R6" battery x 2
Remote control cable for remote control unit x 1
Switch cover x 1

Design and specifications subject to change without notice.

No. 9200
March 1990

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▒▒) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

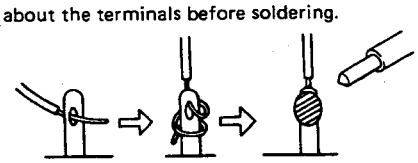


Fig. 1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10—15 kg of force in any direction will not loosen it.

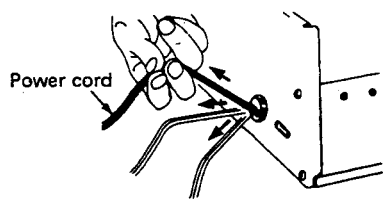


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

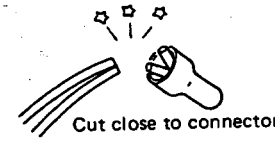


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

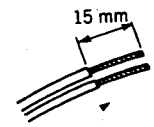


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

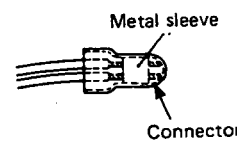


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

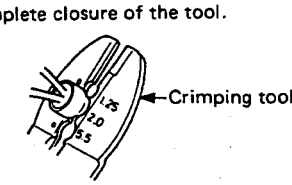


Fig. 6

(5) Check the four points noted in Fig. 7.

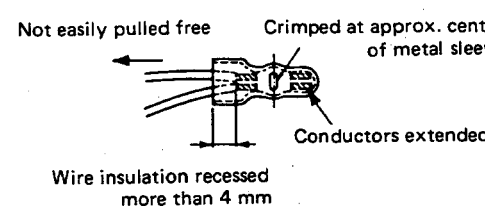


Fig. 7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

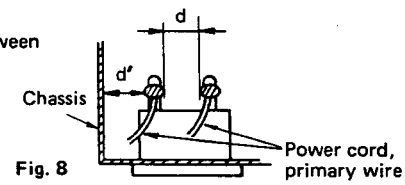


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

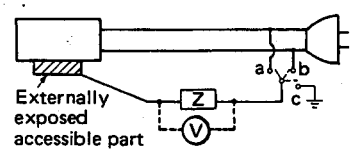


Fig. 9

5. Grounding (Class I model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

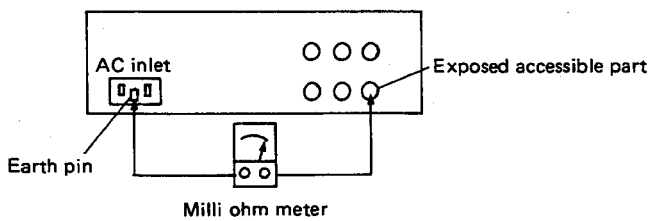


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R≧1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	–	AC 900 V 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R≧10 MΩ /500 V DC	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

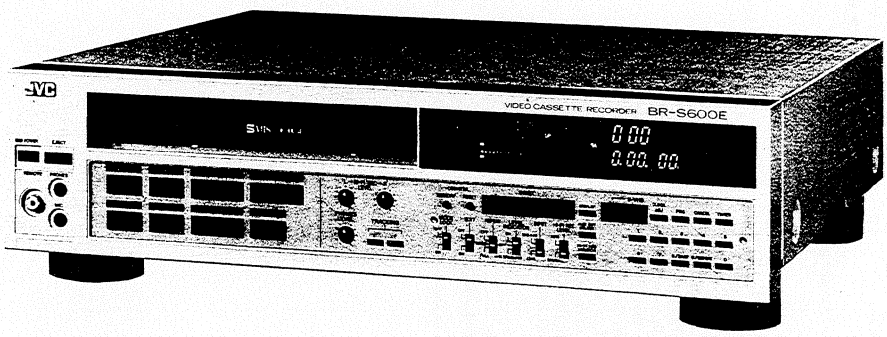
INSTRUCTIONS

JVC

BR-S600E

VIDEO CASSETTE RECORDER
MAGNETOSCOPE A CASSETTE
VIDEOKASSETTENRECORDER

S-VHS 625 VHS PAL Hi-Fi



PGD30002-185

Warning Notice
FOR YOUR SAFETY (Australia)

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

IMPORTANT (In the United Kingdom)
Mains Supply (AC 240 V~)
WARNING – THIS APPARATUS MUST BE EARTHED

The wires in this mains lead are coloured in accordance with the following code:

GREEN-and-YELLOW:	EARTH
BLUE:	NEUTRAL
BROWN:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed at follows. The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or which is coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

This unit is produced to comply with Directives 76/889/EEC, 82/499/EEC and 87/308/EEC.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

Note: The rating plate and the safety caution are on the rear of the unit.

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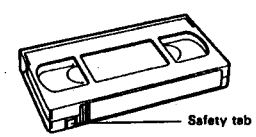
PRECAUTIONS

Handling and storage

- Avoid using the recorder under the following conditions:
  - extremely hot, cold or humid places,
  - dusty places,
  - near appliances generating strong magnetic fields,
  - places subject to vibrations, and
  - poorly ventilated places.
- Be careful of moisture condensation.
  Avoid using the recorder immediately after moving it from a cold place to a warm place or soon after heating a room which was cold. The water vapour in warm air will condense on the still-cold video head drum and tape guides and may cause damage to the tape and the recorder.
- Handle the recorder carefully.
  - Do not block the ventilation openings.
  - Do not place anything heavy on the recorder.
  - Do not place anything which might spill and cause trouble on the top cover of the recorder.
  - Use in horizontal (flat) position only.
- In case of transportation,
  - Avoid violent shocks to the recorder during packing and transportation.
  - Before packing, be sure to remove the cassette from the recorder.

Video cassettes

- This recorder employs S-VHS and VHS cassettes only.
  S-VHS: SE-180 for 180 minutes, SE-120 for 120 minutes and SE-60 for 60 minutes of recording.
  VHS: E-240 for 240 minutes, E-180 for 180 minutes, E-120 for 120 minutes, E-90 for 90 minutes, E-60 for 60 minutes and E-30 for 30 minutes of recording.
- Video cassettes are equipped with a safety tab to prevent accidental erasure. When the tab is removed, recording cannot be performed. If you wish to record on a cassette whose tab has already been removed, use adhesive tape to block the hole.



- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid extreme humidity, violent vibrations or shocks, strong magnetic fields (near a motor, transformer or magnet) and dusty places.
- Place the cassettes in cassette cases and position vertically.

The previous S-VHS logo mark has been changed to S-VHS. Regardless of this change in the official logo the S-VHS system represented by either logo, new or old remains completely identical, and therefore products carrying either logo can be used interchangeably.

FEATURES

High-quality pictures
- Super VHS recording and playback circuitry ensuring super-quality picture with a horizontal resolution of more than 400 lines.
- Separated Y/C signal inputs and outputs for higher quality dubbing and playback of Super VHS signals.
- HQ (High Quality) System circuits (Detail Enhancer, Luminance Signal Noise Reduction, and 20% higher white clip level) to ensure the best possible pictures in the regular VHS mode.
- Super DA-4 head system for superlative picture quality in SP (Standard Play) recording/playback and LP (Long Play) playback.
- Flying erase head and insert editing circuit for professional-class insert edits.
- Edit switch for best possible dubs.

High-quality sound
- Conforms to the Hi-Fi VHS standard for superlative stereo sound with a dynamic range of more than 85 dB.
- Advanced switching noise reduction circuit.
- Hi-Fi recording level controls with ALC switch.
- Peak-hold audio level indicators/Hi-Fi tracking meter.
- Audio dubbing facility.
- Headphone jack with output level control.

Special-effects playback
- Noiseless stills and frame advance.
- Variable-speed slow motion at 1/6, 1/12, 1/18, 1/24 and 1/30 normal speed.
- Variable-speed search at 3, 5, and 9 times normal speed in both directions.
- Double-speed forward playback and normal-speed reverse playback.

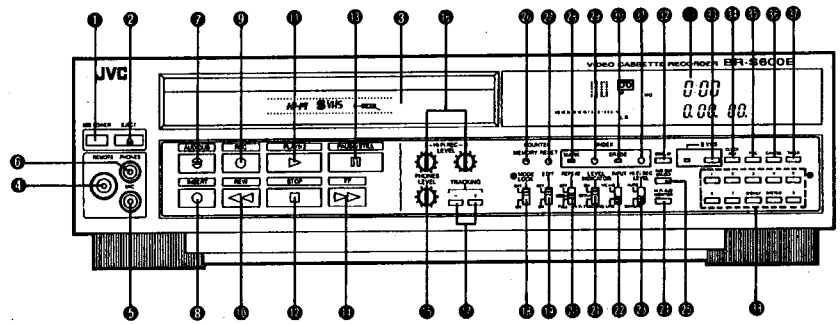
Playback features
- Timer playback using a 1-Year/8-event timer.
- Full repeat and video-end repeat.

Tape access features
- VHS Index Search System which automatically places index codes at the beginning of any recording, with mark/erase facilities for manual marking of extra index codes during recording and playback, and manual erasing of unnecessary index codes during playback.
- Automatic location of up to 9 coded programmes by remote-specifying the number of index codes to be skipped. A specified code can be detected in the Shuttle Search, or the faster REW and FF modes for automatic playback.
- Intro search to play back the beginning of each indexed programme for about 5 seconds in fast-motion.
- Realtime go-to function for locating a point on tape a specified time away from the beginning.
- Realtime search function for locating a point on tape a specified time away from the current position in either direction.
- Half-loading mechanism for quick tape access: Index and Intro Search, and Realtime Go-to and Search can all be carried out in the REW and FF modes as well as in the Shuttle Search mode.
- Counter memory function for returning to a designated point on tape.
- Shuttle Search with lock function at 9 times normal speed.

Other value features
- Mode lock system.
- Realtime tape counter showing tape time in hours, minutes and seconds by counting the recorded 25-Hz control signal pulses.
- Automatic functions including Auto Play and Next-Function Memory.
- Automatic backspace editing with Zero Frame Editing system.
- Remaining tape time indicator.
- On-screen record-pause mode display which signals elapsed pause time.
- Electronic tracking controls.

CONTROLS AND CONNECTORS

FRONT PANEL



❶ POWER button with LED indicator
Press to apply power to the BR-S600E. The indicator will light. Loading a cassette also turns the power on.

❷ EJECT button
Press to eject the cassette. This button can be pressed in any mode except Rec, Audio dub, Insert and Timer Standby. The Cassette indicator on the FDP (fluorescent display) will flash during automatic unloading of the cassette and then go out upon completion of ejection.

❸ Cassette loading slot
Insert a VHS or S-VHS cassette. The door will close and the indicator showing that a cassette is inside will appear on the FDP.

❹ Remote control terminal (RCA)
The provided remote control unit can be connected to this terminal.

❺ Microphone jack (3.5ϕ)
Connect a microphone having an high impedance and a 3.5-mm connector.

❻ Phones jack (3.5ϕ)
Connect a set of headphones having an impedance of 8 ohms and a 3.5-mm connector. The signal selected with the AUD OUT SELECT ⓳ and Hi-Fi AUD MONITOR ⓴ switches can be heard.

❼ AUDIO DUBBING button
Press while in the Still mode then press the PLAY/X2 button ● to start audio dubbing. (See page 17.)

❽ INSERT button
Press while in the Still mode, then press the PLAY/X2 button ● to start insert editing. (See page 17.)

❾ REC button
Press for normal recording.

● Rewind button (REW)
Press to rewind the tape inside the cassette. While the tape is being rewound, the REW indicator will light. This button can be pressed in any mode except Record, Eject, Insert, A. Dub, or Timer Standby. To release the Rewind mode, press the PLAY/X2 STOP or FF button, depending on the mode you want to select next. Pressing this button in the Play or Still mode enables high-speed playback at about 9 times normal in the reverse direction. During search the REW indicator will remain lit.
If the PLAY/X2 button is pressed within 2 seconds after the REW button has been pressed, the tape rewinds to the counter reading of "0H00M00S" or the beginning of the tape depending on whether the MEMORY switch is set to MEMORY or OFF (during rewind the PLAY indicator is blinking) and playback starts automatically.

● PLAY/X2 button
Press once to play back a tape; press again for double-speed playback. To return to normal playback, press it again. Also press this button to cancel the Pause/Still or Search modes. (See pages 9 and 10.)

● STOP button
To stop the tape. When the STOP button is pressed, the tape is unloaded and then the Stop mode is engaged.

● PAUSE/STILL button
Press to temporarily stop the tape to avoid recording unwanted material or to view a still picture. The picture advances each time this button is pressed.

● Fast Forward button (FF)
Press to fast forward the tape inside the cassette. While the tape is being fast forwarded, the FF indicator will light. This button can be pressed in any mode except Record, Insert, A.Dub or Timer Standby. To release the Fast Forward mode, press the PLAY/X2, STOP or REW button, depending on the mode you want to select next. Pressing this button in the Play or Still mode enables high-speed playback at about 9 times normal in the forward direction. During search the FF indicator will remain lit.
If the PLAY/X2 button is pressed within 2 seconds after the FF button has been pressed, the tape fast-forwards to the counter reading of "0H00M00S" when the MEMORY switch is set to MEMORY (during fast-forward the PLAY indicator is blinking) and playback starts automatically.

● PHONES LEVEL control
Adjusts the level of the audio output from the headphone jack.

● Hi-Fi LEFT/RIGHT REC LEVEL controls
When the Hi-Fi REC LEVEL switch is set to MANUAL, to adjust the left/right channel Hi-Fi audio recording level, turn these controls so that the audio level indicators in the display section light to "0" with the loudest signal.

● TRACKING buttons
If noise bars are seen during playback, use these buttons to reduce them. The tracking is reset to normal when both buttons are pressed together, a cassette is ejected, or the power cord is unplugged. These TRACKING buttons can also be used to adjust hi-fi tracking, referring to the hi-fi tracking meter.

⑱ MODE LOCK switch

ON: In the lock mode, the tape control buttons (including REC, PLAY, FF, REW, STOP and PAUSE/STILL), the POWER, EJECT switches and tracking buttons cannot be used.

OFF: The lock mode is not engaged.

⑲ EDIT switch

Normally set to OFF. For making multi-generation dubs using this recorder as a player, set the switch to ON. Picture deterioration due to dubbing will be minimized.

⑳ REPEAT mode select switch

Repeat is possible when the MEMORY switch is set to OFF. (Not effective in the Timer Standby mode.)

OFF: No automatic operation.

FULL REPEAT: The tape will be automatically rewound to the beginning (as usual) and played back repeatedly. The entire tape can be played back again and again automatically.

VIDEO: The tape will be automatically rewound to the beginning and played back repeatedly to the end of the video signal.

㉑ LEVEL INDICATOR select switch

Selects the function of the audio level indicators/Hi-Fi tracking meter.

ON: Set to this position to activate the audio level indicators on the FDP. The indicators show the audio level of the soundtrack selected with the AUD OUT SELECT switch ㉘ .

OFF: No meter operation.

Hi-Fi TRACKING: Set to this position for checking Hi-Fi audio tracking.

㉒ INPUT select switch

This switch selects the video input available from the VIDEO IN Y/C 443 connector and the VIDEO IN LINE connector on the rear panel.

Y/C 443: Set to this position when recording separated Y/C signals applied to the Y/C 443 connector.

LINE: Set to this position when recording the composite video signal applied to the VIDEO IN LINE connector.

㉓ Hi-Fi REC LEVEL select switch

AUTO: Set to this position to activate the automatic level control (ALC) circuit for Hi-Fi audio.

MANUAL: Set to this position to use the Hi-Fi REC LEVEL controls for manual control.

㉔ Hi-Fi AUD MONITOR select switch

Press to select the Hi-Fi audio output. Each time the button is pressed, the Hi-Fi soundtrack to be heard changes (L/R Hi-Fi, Hi-Fi-L or Hi-Fi-R) and is indicated by the audio monitor indicators on the FDP.

㉕ AUD OUT SELECT switch

Press to select the audio output. Each time the button is pressed, the soundtrack to be heard changes (Hi-Fi, normal or mixed playback) and is indicated by the audio monitor indicators on the FDP.

㉖ COUNTER MEMORY button

When this button is pressed to ON; [M] will appear on the FDP and the tape will stop automatically at the counter reading of about "0H00M00S" in the Rewind or Fast Forward mode.

㉗ COUNTER RESET button

Press to reset the tape counter reading to "0H00M00S".

㉘ INDEX MARK indicator

Blinks when an index code is being recorded.

㉙ INDEX MARK button

Press during playback or recording to put an index code onto the tape. (See page 11.)

㉚ INDEX ERASE indicator

Lights in the Erase mode, and blinks when an index code is actually being erased.

㉛ INDEX ERASE button

Press during playback to erase an index code. (See page 11.)

㉜ DISPLAY button

Press to change the display from the Timer Set mode to the Clock mode. Normally set a realtime tape counter, remaining tape time (REMAIN) and date (DATE) display.

㉝ S-VHS mode select button

This button switches between the S-VHS and VHS recording modes. When the S-VHS mode is selected, the S-VHS indicator on the left lights. S-VHS recordings are possible only when S-VHS cassettes are used in the S-VHS recording mode.

㉞ CLOCK ADJUST button

Press to adjust the clock.

㉟ PROGRAM button

Press to programme the timer.

㊱ CANCEL button

Use to clear programme data in the Timer Set mode.

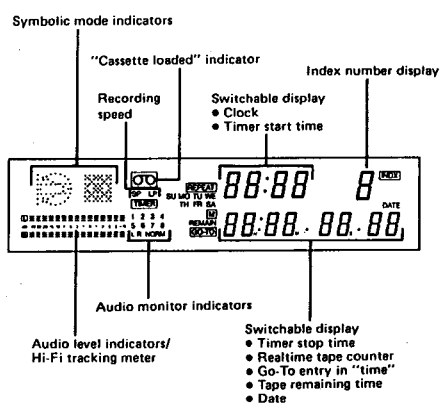
㊲ Timer

Press to engage the Timer Standby mode.

㊳ Multi-purpose numeric keys

Clock setting
Timer programming
Realtime GO-TO & Search
Index Search

㊴ Fluorescent display panel (FDP)



REAR PANEL

❶ AC input socket (AC IN)

Connect to a 220-240 V 50/60 Hz power outlet.

❷ V. LOCK control

When operating in the Still mode, turn this control to eliminate vertical vibrations of the picture, if observed.

❸ VIDEO OUT LINE connector

Output connector for the composite video signal.

❹ VIDEO OUT Y/C443 connector

Output connector for the Y/C443 video signal.

❺ AUDIO OUT connectors

Output connectors for the AUDIO-1/L and AUDIO-2/R audio signals.

❻ AUDIO IN connectors

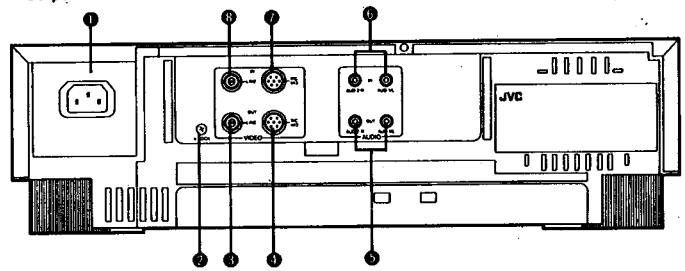
Input connectors for the AUDIO-1/L and AUDIO-2/R audio signals.

❼ VIDEO IN Y/C443 connector

Input connector for the Y/C443 video signal. Functions when the front panel INPUT select switch is set to Y/C443.

❽ VIDEO IN LINE connector

Input connector for the composite video signal. Functions when the front panel INPUT select switch is set to LINE.



Remote Control Unit

This is a wired remote control unit, and cannot be used unless properly connected to the BR-S600E.

❶ Numeric keys

These keys can be used in conjunction with the Realtime Go-To and Index Search functions.

❷ GO-TO button

Press to engage the Realtime Go-To mode. (See page 12.)

❸ INDEX button

Press to engage the Index Search mode. (See page 11.)

❹ INTRO button

Press to engage the Intro Search mode. (See page 13.)

❺ Rewind button (REW)

Press to rewind the tape inside the cassette. While the tape is being rewound, the REW indicator will light. This button can be pressed in any mode except Record, Eject, Insert, A.Dub or Timer Standby. To release the Rewind mode, press the PLAY/X2 STOP or FF button, depending on the mode you want to select next. Pressing this button in the Play or Still mode enables high-speed playback at about 9 times normal in the reverse direction. During search the REW indicator will remain lit.

If the PLAY/X2 button is pressed within 2 seconds after the REW button has been pressed, the tape rewinds to the counter reading of "0H00M00S" or the beginning of the tape depending on whether the MEMORY switch is set to MEMORY or OFF (during rewind the PLAY indicator is blinking) and playback starts automatically.

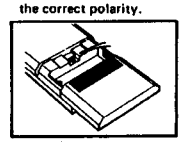
❻ Fast Forward button (FF)

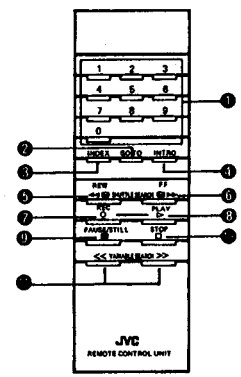
Press to fast forward the tape inside the cassette. While the tape is being fast forwarded, the FF indicator will light. This button can be pressed in any mode except Record, Timer Standby, Insert, A.Dub or Eject. To release the Fast Forward mode, press the PLAY/X2, STOP or REW button, depending on the mode you want to select next. Pressing this button in the Play or Still mode enables high-speed playback at about 9 times normal in the forward direction. During search the FF indicator will remain lit.

If the PLAY/X2 button is pressed within 2 seconds after the FF button has been pressed, the tape fast-forwards to the counter reading of "0H00M00S" (during fast-forward the PLAY indicator blinks) and playback starts automatically.

Installing the batteries

• Insert two "R6"-size batteries (provided) into the battery compartment on the rear of the remote control unit, observing the correct polarity.





❼ REC button

Press together with the PLAY/X2 button to start recording.

❽ PLAY/X2 button

Press once to play back a tape; press again for double-speed playback. To return to normal playback, press it again. Also press this button to cancel the Pause/Still, or Search modes. (See page 10.)

❾ PAUSE/STILL button

Press to temporarily stop the tape to avoid recording unwanted material or to view a still picture. The picture advances each time this button is pressed.

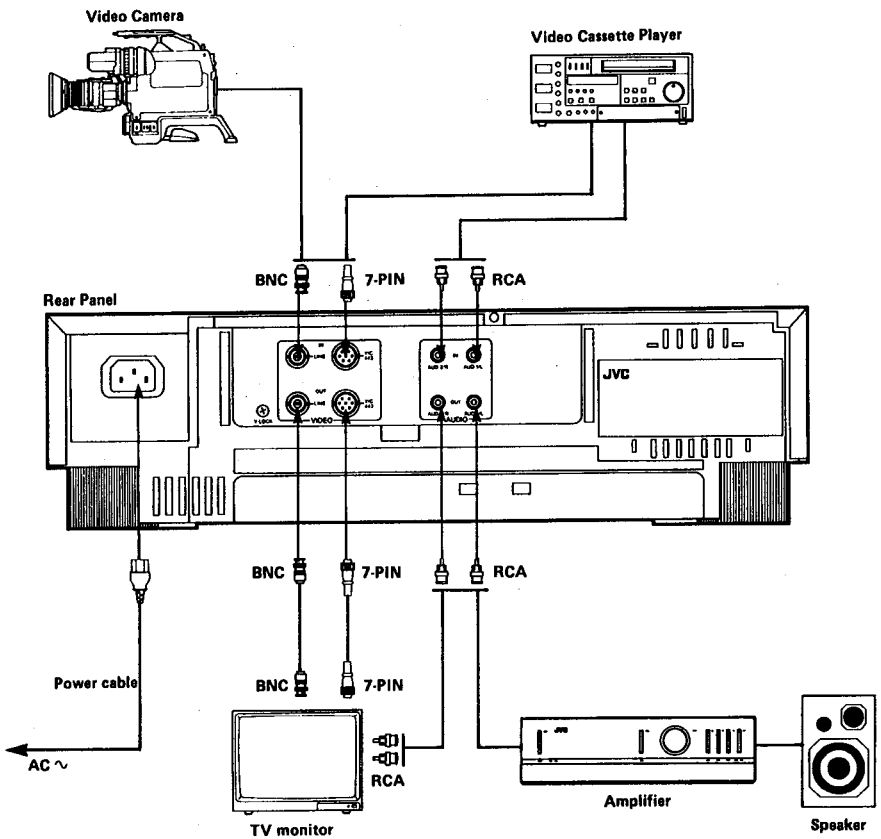
● STOP button

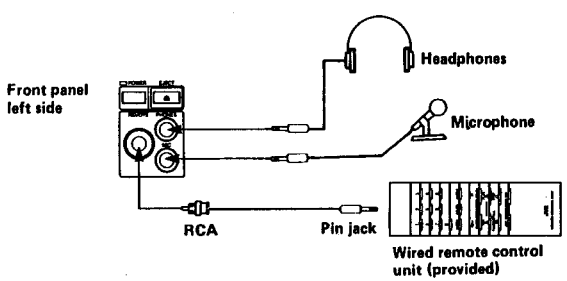
To stop the tape. When the STOP button is pressed, the tape is unloaded and then the Stop mode is engaged.

● VARIABLE SEARCH ≪ / ≫ buttons

Use these buttons to control the search speed. Both slow-motion and fast-motion search are available. The slow-motion speed can be changed in 5 steps; 1/6, 1/12, 1/18, 1/24, and 1/30 of normal speed in the forward direction. For fast-motion search, available speeds are x3, x5, and x9 in both directions and x2 in the forward direction. No audio is available in the Variable Search mode. To cancel the Variable Search mode, press the PLAY/X2, STOP, FF or REW button. (See page 10.) When the FF or Rew button is pressed, the shuttle search mode is entered in the corresponding direction.

CONNECTIONS

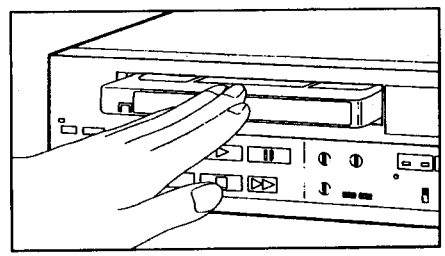




LOADING AND UNLOADING A VIDEO CASSETTE

Loading
Insert a cassette as illustrated with its labelled side facing you.
- With a cassette inserted, the mark to indicate "cassette inserted" appears on the FDP.

Unloading
Press the EJECT button. The cassette will be ejected.



Motorized loading system
- The cassette can be loaded even when the power has not been turned on. Inserting a cassette into the loading slot turns the power on automatically.
- The cassette can be unloaded even when the power has been turned off. If a cassette is inside, pressing the EJECT button turns the power on automatically and, after ejection of the cassette, shuts it off automatically.
- Inserting a cassette, with its safety tab removed, turns the recorder on and playback of the cassette begins automatically.

Notes:
- Be sure to insert the cassette firmly into the slot; otherwise, it will be automatically rejected.
- The automatic loading mechanism will operate only when the cassette is inserted correctly.

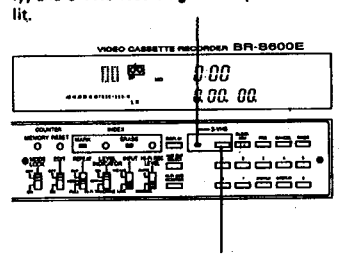
Caution
- If unloading of a cassette is not possible, check to see whether the TIMER indicator is lit. If iris, press the TIMER button so the TIMER indicator goes out.
- Do not attempt to pull out the cassette once automatic loading has started.

WARNING
- Do not insert fingers or any foreign object beyond the door flap of the cassette loading slot, as this could lead to injury or damage to the mechanism. Show special caution with children.

S-VHS RECORDING AND PLAYBACK

S-VHS Recording

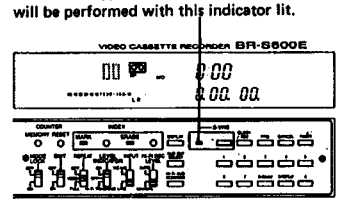
Insert an S-VHS cassette. This indicator will light automatically, and S-VHS recording will be performed with this indicator lit.



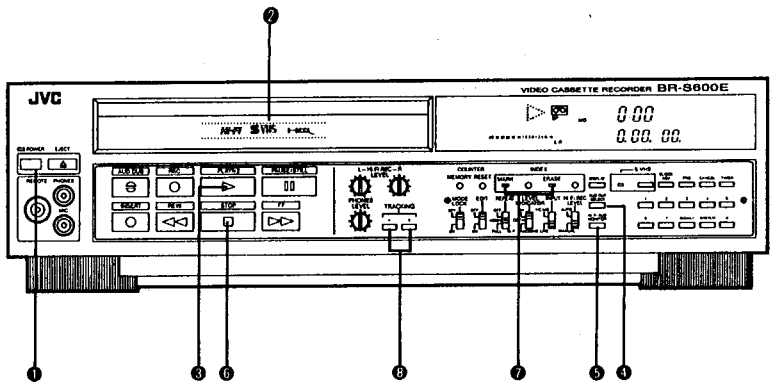
To make a VHS recording on an S-VHS cassette, press this button to enter the VHS mode. The indicator will go out. To return to the S-VHS mode, press this button again.

S-VHS Playback

Insert a recorded S-VHS cassette. This indicator will light automatically, and if the recorded signal is S-VHS, playback will be performed with this indicator lit.



PLAYBACK

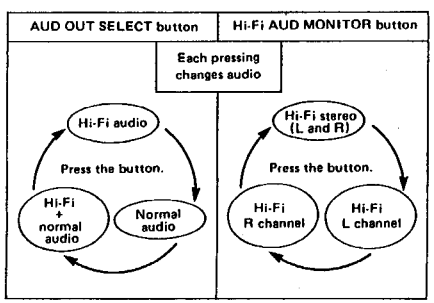


❶ Press the POWER button on.
❷ Insert a pre-recorded cassette into the cassette loading slot.
- When the cassette loaded has no safety tab, playback starts automatically.

❸ Press the PLAY/X2 button. The tape will start running and the playback picture will appear on the monitor screen.
❹❺ Determine AUDIO OUT setting as required. See below.
❻ Press the STOP button to stop playback.

To select the soundtrack to be heard

By pressing the AUD OUT SELECT ❹ and Hi-Fi AUD MONITOR ❺ buttons, the audio output changes as shown below.



Note:
- Noise bars may appear on the screen if you play back a tape which was recorded using another VTR. In such cases, adjust the TRACKING controls. Press one of the buttons to correct the picture referring to both the monitored picture and the Hi-Fi tracking meter. Optimum tracking is obtained when the largest number of LEDs light. After playback, tracking may be reset manually by pressing both buttons simultaneously. It is reset automatically when the tape is ejected, the Record mode engaged or the power cord unplugged.

SPECIAL-EFFECTS PLAYBACK

SHUTTLE SEARCH

When the REW or FF button is pressed in the Stop mode, normal rewind or fast forward takes place. When these buttons are pressed in the Play, or Still mode, the tape runs at about 9 times normal speed in the corresponding direction. The buttons can be locked and the indicator lights. You can follow the speeded-up picture on the monitor screen.
- For briefer scanning, keep the SHUTTLE SEARCH button pressed for more than 2 seconds; when you release the button, the Search mode will be cancelled.

STILL & FRAME ADVANCE

- Press the PAUSE/STILL button in the Play mode, the tape will stop and a still picture will be obtained.
- To advance the still picture, press again.
- To return to the normal Play mode, press the PLAY/X2 button.

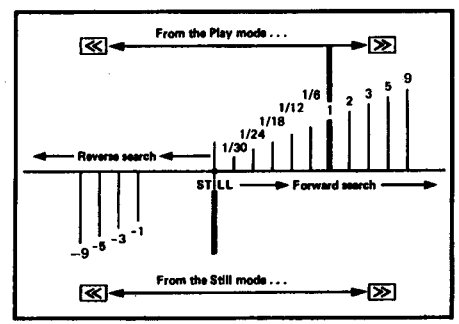
Note:
- When the STILL mode continues for longer than about 5 minutes, the STOP mode will be entered automatically.

DOUBLE-SPEED PLAYBACK

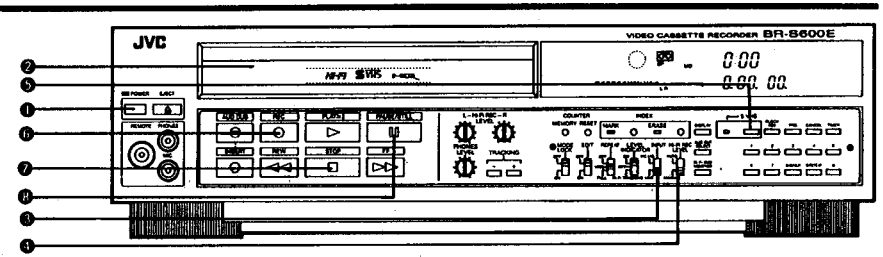
- Press the PLAY/X2 button in the Play mode, double-speed playback will be engaged.
- To resume normal playback, press the same button again.

VARIABLE SEARCH (≪ and ≫)

Using the remote control, variable speed search is possible in either forward or reverse direction from either the Still or Play mode.
- To search in the forward direction:
  - Press the ≫ button in the Play mode to start fast-motion searching from 2 times normal speed. To increase speed (to 3, 5, 9 times normal), press ≫ repeatedly.
  - Press the ≫ button in the Still mode to start slow-motion searching from 1/30 normal speed. To increase speed (to 1/24, 1/18, 1/12, 1/6, normal, X2, X3, X5, X9), press ≫ repeatedly. To decrease speed, press ≪ repeatedly. (Pressing the ≪ button in the Play mode, starts slow-motion searching at 1/6 normal speed.)
- To search in the reverse direction:
  - Press the ≪ button in the Still mode to start searching in the reverse direction at the same speed as normal speed playback. To increase speed (to –3, –5, –9 times normal), press ≪ repeatedly. To decrease speed, press ≫ repeatedly.
- To return to the normal Play mode, press the PLAY/X2 button.



RECORDING



❶ Press the POWER button to ON.
❷ Insert a video cassette into the cassette loading slot.
❸ Set the INPUT select switch as required.
❹ Set the Hi-Fi REC LEVEL switch as required. (See pages 4 and 5.)
❺ Set the S-VHS select button.
To record in the S-VHS mode, confirm that the LED indicator lights. (For S-VHS recording, S-VHS cassettes must be used.) To record in the VHS mode, press the S-VHS button ❺, the LED indicator will go out.
❻ Press the REC button to ON. The Record mode will be engaged and the REC button lamp will light. Make sure the LED indicator lights.
(When using the provided remote control unit, press the REC and PLAY/X2 buttons simultaneously)
❼ Press the STOP button to stop recording.

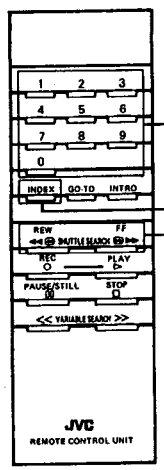
RECORD PAUSE
- Press the PAUSE/STILL button ❽ to ON.
- To restart recording, press the PLAY/X2 button.

Note:
- When the PAUSE mode continues for longer than about 5 minutes, the STOP mode will be entered automatically.

INDEX SEARCH FUNCTION

The Index Search function gives you automatic access to the beginning of individual recordings on the cassette tape. An Index Code is automatically placed on the tape control track each time a recording is begun. You can access any one of up to 9 of these indexed segments in either the forward or reverse direction.

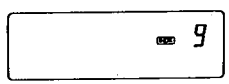
USING THE INDEX SEARCH FUNCTION



(1) Press the INDEX button (on the remote control) while in the Play or Stop mode and "INDX" will light on the FDP.

(2) Specify the index number using one of the numeric keys (1–9) within 10 seconds.
- The specified number will appear on the FDP.

FDP

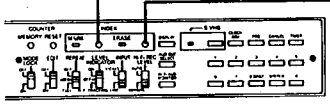


(3) Press either FF or REW.
- The tape will move and the index numbers count down to 0, where normal playback will start.
  If the INDEX button was pressed in the Play mode, the screen shows search pictures; if the button was pressed in the Stop mode, the index codes are detected in the Rewind or Fast-Forward mode.

Notes:
- To cancel the Index Search mode before completion, press the PLAY/X2 or STOP button.
- If the end of the tape is reached while still in the Index Search mode, the mode is cancelled and the tape rewound.

CHANGING THE INDEX CODES

Index codes are automatically placed at the beginning of recordings which are started from the Stop mode. You can use the MARK button to add extra codes, and the ERASE button to erase codes. In neither case is there any effect on the audio or video recordings on the tape.



MARK
In the Play or Record mode, press this button once to put an index code onto the tape.
The MARK indicator blinks during the marking process.

ERASE
In the Play or Still mode, press this button to erase the next index code. The tape is automatically fast-forwarded and when an index code is detected, it will be erased automatically. The ERASE indicator remains lit during the searching process and blinks during the erasing process.

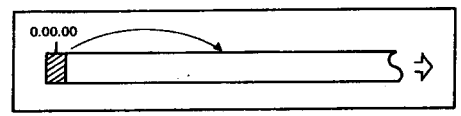
Notes:
- Index codes cannot be added to or erased from a tape with its safety tab removed.
- While the index code is being searched for in the Erase mode, random noise appears on the screen as the tape runs at high speed. This is not due to any defect of the unit.
- The Erase mode is cancelled either after one index code has been erased or the Play mode is cancelled.

REALTIME GO-TO FUNCTION

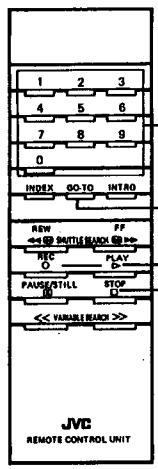
Unlike usual tape counters which show tape locations in numbers, this realtime tape counter shows tape time precisely in hours, minutes and seconds in all modes (Record, Play, Rewind, Fast Forward).

Time Go-To function

The Time Go-To function gives you direct access to any point on the tape by simply specifying the time from the beginning.



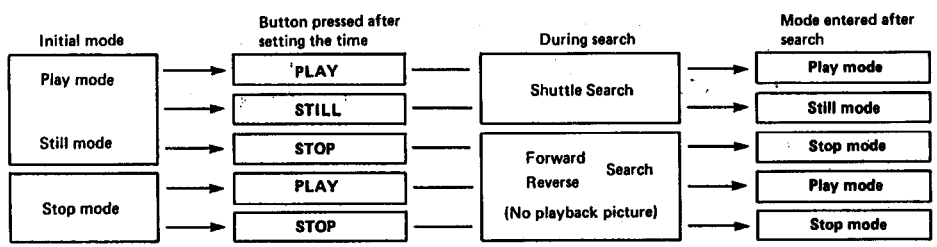
Before using this function, set the REPEAT switch to OFF.



(1) Press the GO-TO button while in the Play, Stop or Still mode.
- The counter on the FDP will change to the Go-To mode.
- "GO-TO -H--M--S" will appear if the recorder did not detect the leader tape when the cassette was loaded.
- GO-TO 0H02M32S" (for example) will appear if the recorder has already detected the leader tape, to show the current tape counter reading in terms of the time from the tape's beginning.

(2) Specify the time to the point to be located, by using the numeric keys.
- Always key in a full number.

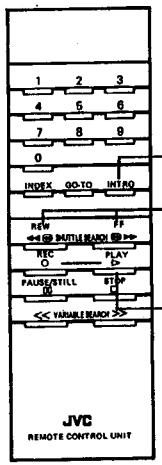
(3) Press the PLAY/X2 or STOP button (or the PAUSE/STILL button, if either the Play or Still mode is already engaged).
- Depending on the situation, search will take place either in the Shuttle Search mode or in the Rewind or Fast Forward mode which is much faster than the Shuttle Search mode. After the specified point is reached, playback starts automatically, the tape stops automatically or enters the Still mode, depending on the command.
- If the recorder did not detect the leader tape when the cassette was loaded, the tape first goes to its beginning, with "GO-TO -H--M--S" appearing again, and then moves to the specified point.



Notes:
- Each step in the operation procedure must be followed by the next within 60 seconds, otherwise the Go-To mode will be cancelled.
- If the specified time exceeds the tape length, the tape fast forwards to the end and then rewinds to the beginning and stops.
- If the GO-TO button has been pressed in the Play or Still mode, a still picture can be obtained when the specified point is reached, if you press the PAUSE/STILL button instead of the PLAY/X2 or STOP button after keying in the time.
- Use of other control buttons, while in the Time Go-To mode, cancels the mode.

INTRO SEARCH FUNCTION

The Intro Search function lets you visually check the contents of each recording by playing back in fast motion a short segment of a program each time an index code is detected.



(1) Press the INTRO button while in the Play or Stop mode.
- The INDX indicator on the FDP will light.

(2) Press the FF or REW button within 2 seconds.
- The Intro Search will start in the corresponding direction.
- Each time an index code is detected, the corresponding part is played back at the search speed (9 times normal) for about 5 seconds.

(3) When you find the section you want to view, simply press the PLAY/X2 button.
- Normal playback will start.

NEXT-FUNCTION MEMORY

Before using these functions, set the REPEAT switch to OFF.

Memory Play function

- If you want to watch the tape from its beginning after rewinding, press the REW button and the PLAY/X2 within 2 seconds. Playback will start automatically at the beginning of the tape, when the MEMORY button is set to OFF.
  If you want to watch the tape from the counter reading of "0H 00M 00S", press the MEMORY button. Then, press the REW (or FF) button and then PLAY/X2.
- While the tape is being rewound, the PLAY indicator is blinking. To cancel the Memory Play mode and go to another mode, press the corresponding button (STOP, PLAY/X2, FF, REW, EJECT). Or turn the power off.

Note:

- Successive pressing PLAY/X2 may cause malfunctioning. If this happens, make sure of the indication and reperform the operation.

Memory Eject/Power-Off/Timer Standby

If you are going to eject the cassette, turn the power off or engage the Timer Standby mode after rewinding the tape, you don't have to wait for completion of rewind to press the corresponding button.

- To eject the cassette after rewind, press REW and then EJECT within 2 seconds. (To cancel the Memory Eject mode, press the STOP, EJECT or PLAY button, or turn the power off.)
- To turn the power off after rewind, press REW and then POWER within 2 seconds. (To cancel the Memory Power-off mode, press POWER.)
- To engage the Timer Standby mode after rewind, press REW and then TIMER within 2 seconds. (To cancel the Memory Timer Standby mode, press TIMER.)

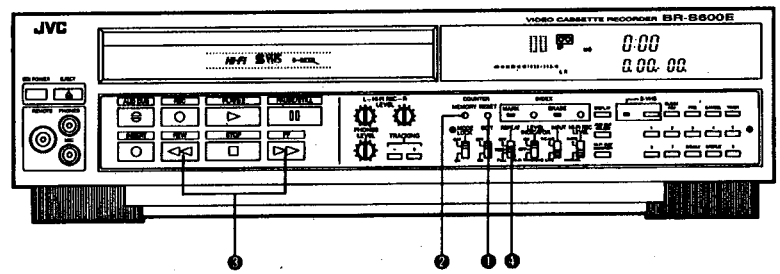
Notes:

- When the Timer Standby mode is specified, the tape is rewound always to the beginning regardless of the setting of the MEMORY button.
- When the Next-Function Memory mode is cancelled, make sure of that with the relevant indication on the FDP.

Memory Play	REW/FF →	PLAY/X2	PLAY	Blinking →	Play mode
Memory Eject	REW →	EJECT		Blinking →	Cassette ejected
Memory Power-off	REW →	POWER	POWER	Blinking →	Power off
Memory Timer Standby	REW →	TIMER	TIMER	Lights →	Timer standby mode

within 2 seconds

COUNTER MEMORY AND FULL REPEAT/VIDEO REPEAT



COUNTER MEMORY

You can use the counter memory function to automatically locate and stop at the beginning of any one program or segment on the tape from the Fast Forward or Rewind mode.

❶ Press the COUNTER RESET button at a point which you wish to locate later. Count indicator will show "0H 00M 00S" on the FDP.
❷ To locate the desired tape segment, press the MEMORY button.
❸ Press FF or REW button in the Stop mode when the tape is in any position. The tape will return to the point where the COUNTER RESET button was pressed ("0H00M00S") and will stop automatically.

FULL REPEAT

When the entire tape, from the beginning to the end, is to be repeated, proceed as follows:

1. Set the REPEAT switch ❶ to FULL.
2. Disengage the Counter Memory mode.
3. Press the PLAY/X2 button to start playback.
   - When the tape reaches its end, it is rewound to the beginning and then played back again automatically. The procedure is repeated as many times as desired.

When the tape reaches its end in the Play or Record mode, it is automatically rewound to the beginning and then the Stop mode is engaged.

- When the MEMORY button is pressed, the tape automatically stops at the counter reading of "0H00M00S".
- When the Timer Playback mode is engaged, the tape is played back repeatedly in the Full Repeat mode until the preset time expires, even if the MEMORY button is pressed.

VIDEO REPEAT

1 When the tape reaches the end of prerecorded signals in the Play mode, it is automatically rewound to the beginning and then played back again.

For repeat playback, proceed as follows.

1. Set the REPEAT switch to VIDEO.
2. Disengage the Counter Memory mode. (Otherwise the tape will stop at "0H00M00S" during rewind.)
3. Press the PLAY/X2 button to start playback.

Note:

This function does not work when there is a blank section of more than 8 seconds at the beginning of the tape.

CLOCK ADJUSTMENT

1 Press CLOCK ADJUST.
- The display will change to the Clock Set mode with the hour indication blinking.

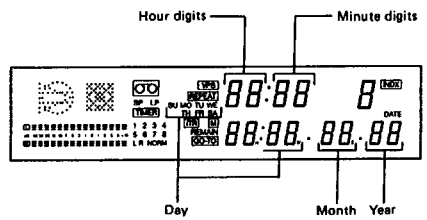
2 Set the hour and minute in that order.
- The blinking position is ready for entry.
- To set a one-digit number, first press "0", then press the numeric key for 1 to 9.
- Zero will not be displayed in the tens place of the hour indication unless the cursor is moved back to the hour digits.
- For a two-digit number, simply press the corresponding numeric keys in the right order.
- In hour setting, numbers larger than 23 will be rejected.
- In minute setting, numbers larger than 59 will be rejected.

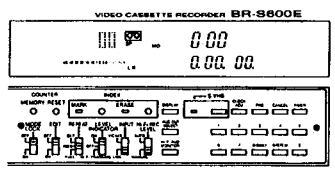
3 Set the day and month in that order.
- The setting method is the same as for time setting.
- In day setting, invalid numbers such as January 32 or February 30 will be rejected.
- February 29 will be accepted only during leap years.
- In month setting, numbers larger than 12 will be rejected.

4 Set the year.
- Key in only the last two digits of the year.

5 Press CLOCK ADJUST.
- Press it at the exact instant of the time signal, and the clock will be set accurately to the present time.
- The day-of-the-week indication will be displayed automatically.

Notes:
- Clock setting is not possible if the TIMER button is engaged with the TIMER indicator lit. First check to see that the TIMER indicator is off.
- If you have mode a mistake in entering the clock data, press the CLOCK ADJUST button and re-do the setting operation.

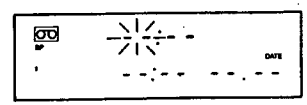




Power failure indicator
The blinking 0:00 (initial condition of the display) is also a power failure indicator, showing that there has been a power failure exceeding about 3 to 5 minutes. Readjusting the time restores the normal condition of the clock display.

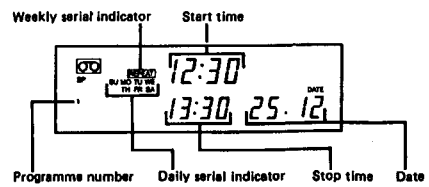
AUTOMATIC TIMER PLAYBACK

1 Press PROGRAM ●.
- The display will change to the Timer Set mode for programme number "1". To advance to programme numbers 2 – 8, press PROGRAM.



2 Enter the start time using numeric keys.
- Invalid numbers will be rejected.
- To key in a one-digit number of hours or minutes, first press [0]. Then press the relevant numeric key.

3 When the display changes to the next stage, key in the stop time and date in succession using numeric keys.
- To start playback at the same time everyday starting on a certain day, press [8] and enter the date.
- To start playback at the same time on the same day every week, press [9] and enter the date.

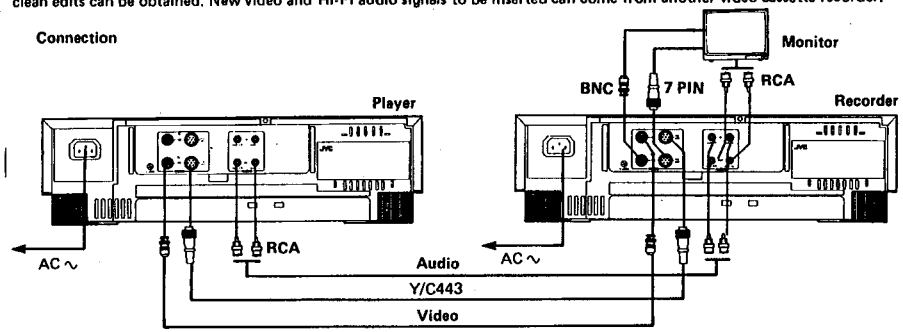


4 After making sure that the cassette is loaded, press TIMER.
- The Timer Playback Standby mode will be engaged with the TIMER indicator and the preset programme number(s) illuminated and the power turned off.
- With no cassette loaded, the TIMER and "cassette loaded" indicators will continue blinking.
- If a preset programme contains errors, that programme number will not be illuminated. Recheck the programmed data.
- During programming, if you press a wrong key and the flashing position has advanced, press the CANCEL key to return to the start of this programme to correct it.

INSERT EDITING

Insert editing means recording a new scene into a section of pre-recorded tape so that a part of the original recording can be replaced with a new sequence without excessive picture distortion at edit-in and edit-out points. Thanks to the flying erase head, clean edits can be obtained. New video and Hi-Fi audio signals to be inserted can come from another video cassette recorder.

Connection



Procedure (for BR-S600E as the recorder)

1 Insert a pre-recorded cassette into the cassette loading slot.
2 Set the INPUT select switch as required.
3 Set the S-VHS button as required.
4 Set the Hi-Fi audio recording level, if the Hi-Fi REC select switch is set to MANUAL.
5 Play back the tape to determine the edit-out point (the end of the tape section to be replaced).
6 Press the PAUSE/STILL button at the edit-out point.
7 Press the COUNTER RESET button.
   - The counter will be reset to "0H 00M 00S".
8 Press the REW button to determine the edit-in point (the beginning of the tape section to be replaced).
9 Press the PAUSE/STILL button at the edit-in point.
10 Press the INSERT button.
   - This engages the Insert Standby mode in which the input signal can be monitored on the TV screen; the still picture changes into the input signal that you are going to record.
   - The input sound signal can also be monitored.
11 Play back the tape programme to be inserted on another recorder.
12 Press the PLAY/X2 button to start insert editing.
   - Now video and Hi-Fi audio signals will be recorded simultaneously.
   - At the counter reading of "0H 00M 00S", recording will stop automatically.
   - The tape will continue running in the Play mode.

Notes:

- Do not use the STOP button to stop insert editing.
- If you wish to stop insert editing before the specified edit-out point is reached, press the COUNTER RESET button. Then the Play mode will be entered.
- Insert editing is also possible without determining the edit-out point. Simply start insert editing at the edit-in point and, where you wish to stop insert editing, press the PAUSE/STILL button. Since this VTR incorporates a flying erase head, even this simplified procedure makes clean edits, though there may be a slight discrepancy between the actual and intended edit points if insert editing stops with the PAUSE/STILL button.
- If there is a non-recorded section on the tape, the Insert Edit mode will be cancelled automatically and the Play mode will be engaged.
- Insert editing is not possible with non-recorded cassettes or cassettes whose safety tab has been removed.

AUDIO DUBBING

Audio dubbing means recording a new soundtrack on a pre-recorded tape. In other words, the previously recorded sound is erased and replaced with a new soundtrack. **Audio dubbing is applicable only to the longitudinal audio track (normal audio).** Therefore, a dubbed narration can be heard together with the original hi-fi sound.

1 Load a pre-recorded cassette into the cassette loading slot.
2 Connect a microphone or an audio source to the MIC jack or the AUDIO IN connectors respectively.
   - With both microphone and audio source connected, mixed sound is recorded.
3 Press the PLAY/X2 button to start playback and then press the REW or FF button to search for the point from which you wish to start audio dubbing.
4 Press the PAUSE/STILL button at the start point of audio dubbing.
5 Press the AUDIO DUB button.
6 Press the PLAY/X2 button.
   - Audio dubbing will start.

Notes:

- It is recommended that you use a lower-impedance microphone.
- If a stereo source is connected to the AUDIO IN connectors, the mixed L and R sound is recorded.
- When the safety tab has been removed, audio dubbing cannot be performed.

SPECIFICATIONS

GENERAL

Format	: VHS · S-VHS standard
Tape width	: 12.65 mm (1/2 inch)
Tape speed	: 23.39 mm/s (SP)
Recording & Playback time	: 180 min. with JVC SE-180 or E-180 (SP) 360 min. with JVC SE-180 or E-180 (LP) (Playback only)
Operating temperature	: 5°C to 40°C
Operating humidity	: Less than 80% R.H.
Storage temperature	: –20°C to 60°C
Power consumption	: 30 watts
Power requirement	: AC 220–240 V ~ 50/60 Hz
Dimensions	: 435 mm(W) x 124 mm(H) x 370 mm(D) (Excluding protrusions)
Weight	: 7.5 kg
Fast forward/Rewind time	: Within 4.0 min. for 180 min. tape

VIDEO

Recording and Playback system		: Rotary four head, herical scanning system Luminance: FM recording Colour: Down converted direct recording
Video signal system		: PAL-type colour signal/PAL-type Y/C signal
Input	line video	: 0.5 ~ 2.0 Vp-p, 75 ohms, unbalanced
	Y/C443	: Y: 0.8 ~ 1.2 Vp-p, 75 ohms, unbalanced C: 0.2 ~ 0.4 Vp-p, 75 ohms, unbalanced (Burst)
Output	line video	: 1.0 Vp-p, 75 ohms, unbalanced
	Y/C443	: Y: 1.0 Vp-p, 75 ohms, unbalanced C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)
Signal-to-noise ratio		: 43 dB
Horizontal resolution		: 400 lines (S-VHS) : 250 lines (VHS)

AUDIO

Input	(line)	: –8 dBs, 50 k-ohms, unbalanced (Normal, Hi-Fi)
	(microphone)	: –67 dBs, high impedance
Output	level (line)	: –6 dBs, 1 k-ohms, unbalanced (Normal, Hi-Fi)
Signal-to-noise ratio		: 40 dB (Normal)
Dynamic range		: 85 dB (Hi-Fi/SP)
Frequency response		: 70 to 10.000 Hz ±6 dB (Normal) 20 to 20.000 Hz ±6 dB (Hi-Fi)
Wow and flutter		: Less than 0.008% wrms (Hi-Fi)

ACCESSORIES : Remote control unit x 1
"R6" battery x 2
Remote control cable for remote control unit x 1
Switch cover x 1

Design and specifications subject to change without notice.

SECTION 1
DISASSEMBLY

1.1 EXTERNAL COVERS

1. Top cover

1) Take out four screws Ⓐ and one screw Ⓑ from the right, left and rear sides of the set.
2) Tilt up the rear end of the top cover in direction ① , then remove the top cover.

2. Front panel

1) Remove the top cover.
2) Carefully bend three hooks Ⓒ of the front panel assembly from the upper side of the chassis in order to disengage the hooks from the chassis.
3) Pull the front panel assembly toward direction ② to disengage three hooks Ⓓ of the front panel assembly from the bottom of the chassis, then remove the front panel assembly.

3. Bottom cover

1) Remove the top cover.
2) Take out ten screws Ⓔ from the bottom of the set, then remove the bottom cover.

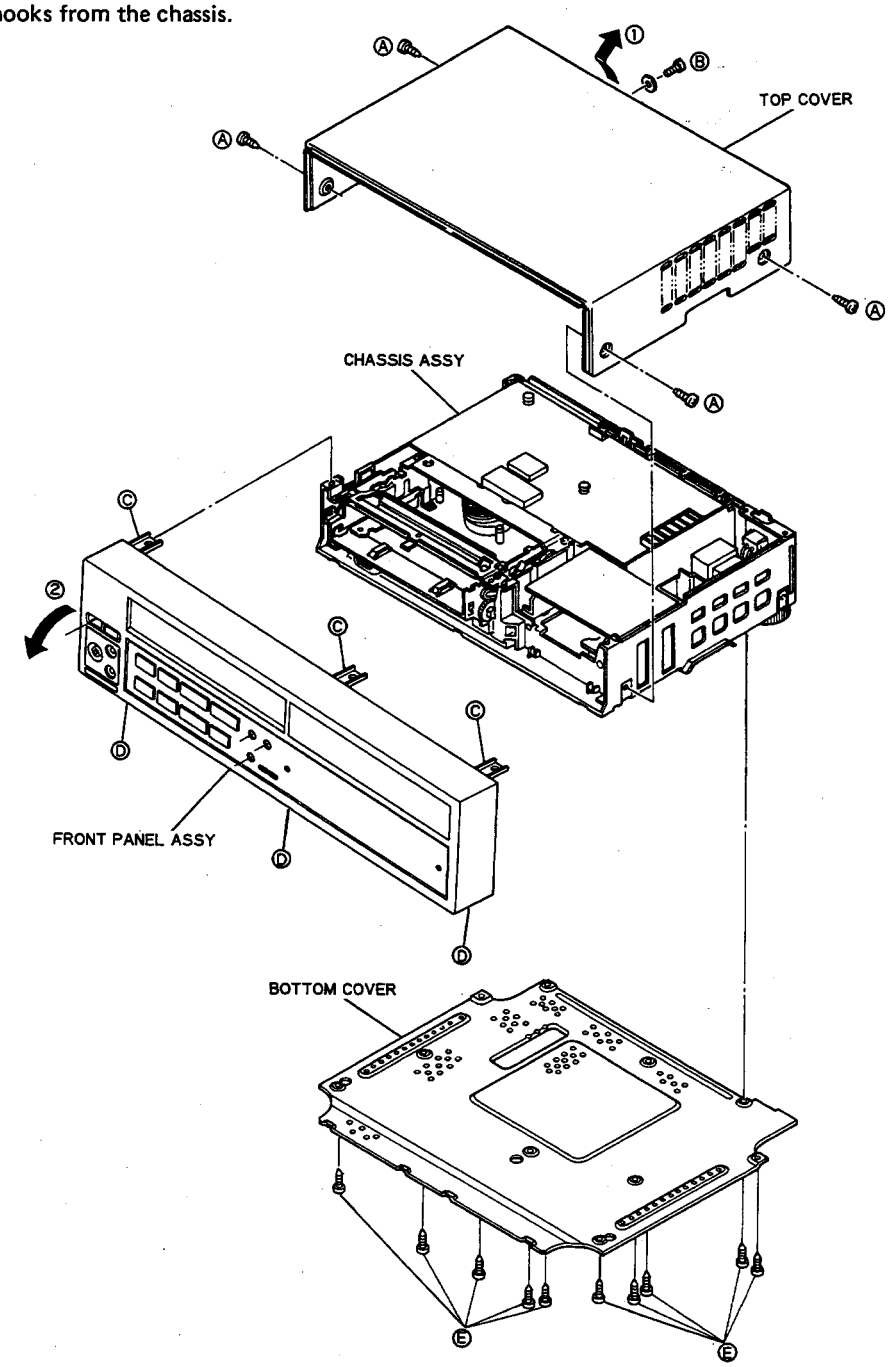


Fig. 1-1-1

1.2 MAIN CIRCUIT BOARDS

1. Video board assembly and Terminal board assembly
1) Take out five screws Ⓛ and one screw Ⓜ , then raise the video board and Terminal board assemblies to remove them.

2. Flying Enase board assembly
1) Take out one screw Ⓟ and remove the bracket.
2) Raise the Flying Erase board assembly to remove it.

3. Mechacon board assembly, AV IN/OUT board assembly and Servo board assembly.
1) Take out three screws Ⓠ , then remove the Mechacon board assembly, AV IN/OUT board assembly and Servo board assembly.

Note: Servo and AV IN/OUT board assemblies are connected to the Mechacon board assembly.

4. Servo Sub board assembly
1) Take out one screw Ⓡ and remove the bracket.
2) Raise the Servo Sub board assembly to remove it.

5. Audio board assembly
1) Take out two screws Ⓢ and remove the Audio board assembly and shield plate assembly.

6. Timer board assembly
1) Take out two screws Ⓣ and remove the Timer board assembly.

7. Switching Power Supply board assembly and Regulator board assembly
1) Take out three screws Ⓤ and remove the Switching Power Supply board assembly and Regulator board assembly.

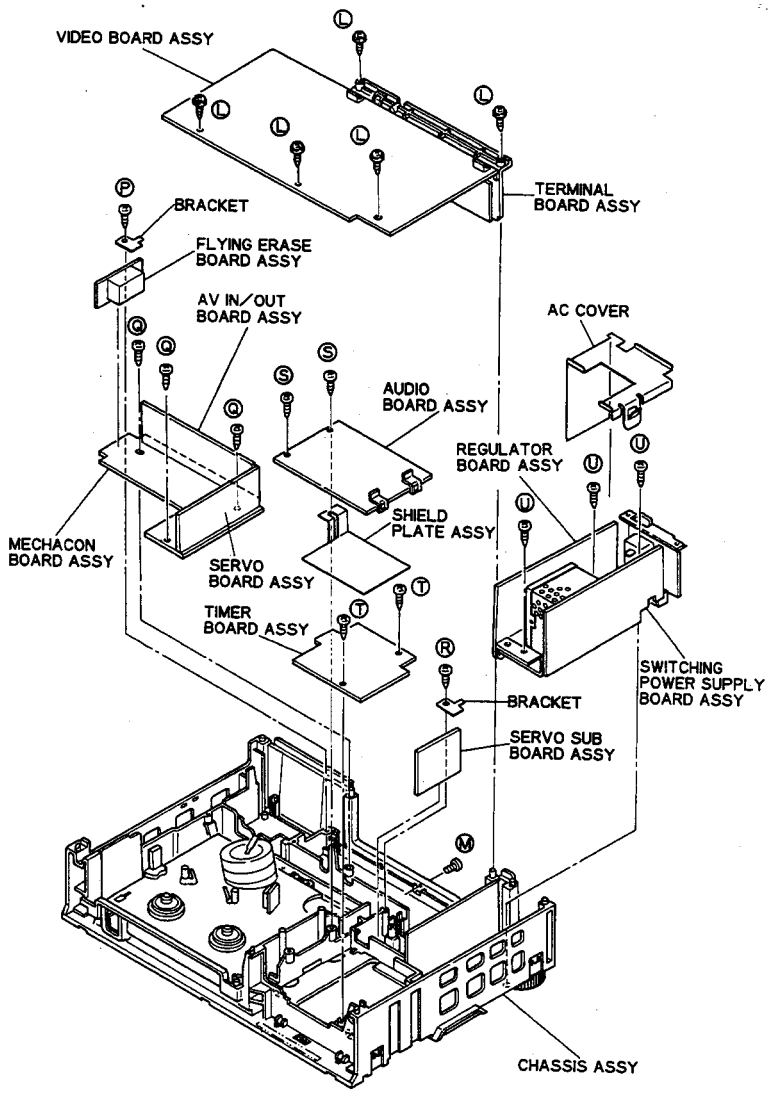


Fig. 1-2-1

SECTION 2
MECHANISM ADJUSTMENT

2.1 GENERAL

2.1.1 Precautions

IMPORTANT:

1. Disconnect unit from power before removing or soldering components.
2. When removing a fastener (screw, washer, etc.), be careful not to drop it into the mechanism. If a fastener should be dropped, be sure to retrieve it.
3. The tape transport mechanism has been precisely adjusted at the factory and ordinarily does not require readjustment.
4. When removing a part, be very careful not to damage or displace other parts. (Be especially careful with the tape guides and rotary video head drum.)
5. For service procedures that set for the Play mode when the cassette housing is separated from the main-deck, perform as below.

1) Set a sheet of insulated material on the top of chassis.
2) Remove the cassette housing from the main-deck and place it on the insulated sheet, but do not disconnect the housing connector.
3) Cover the cassette LED on the main-deck with an opaque cover.
4) The Play mode can be obtained by using the Play switch without a cassette tape.

2.1.2 Required test equipment, fixtures and tools

For proper mechanical adjustment, the following test equipment, fixtures and tools are strongly recommended. Without them, a long trial-and-error period would be necessary, resulting in possible damage. In addition, general-purpose tools are required.

1. Test equipment required:
   Color television or monitor
   Oscilloscope: Wide-band, dual trace, triggered, delayed sweep
   Recording tape
   Alignment tapes

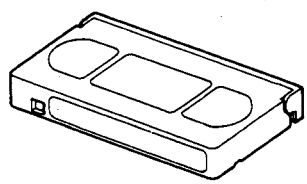
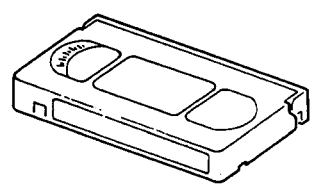
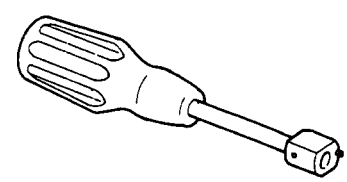
Alignment tape MHPE, MHPE-L, MH-F8	Cassette torque meter PUJ42881	A/CTL head position tool PUJ47351-2
		

Table 2-1-1 Fixtures and tools

2.1.3 Layout of main parts

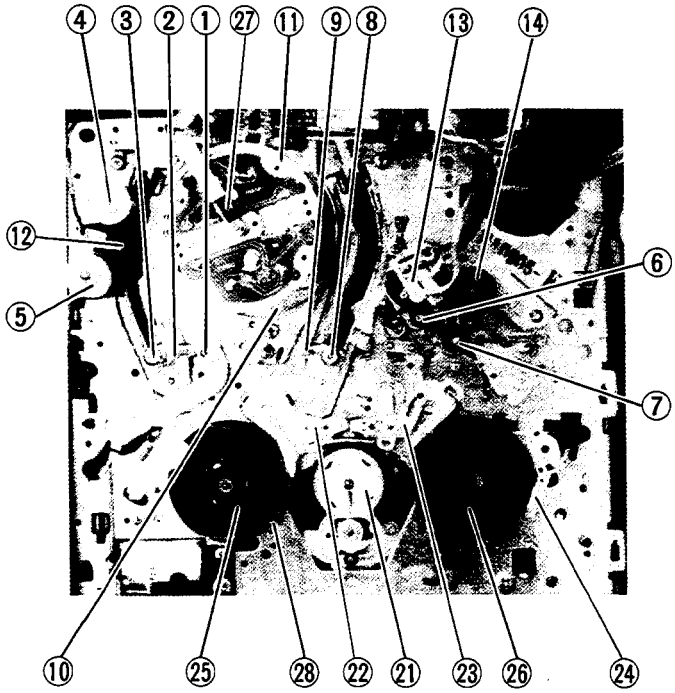


Fig. 2-1-1 Top view of main-deck

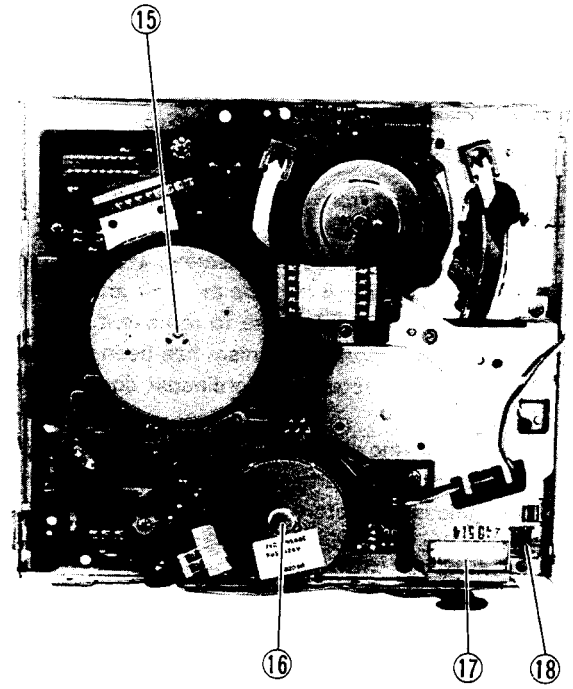


Fig. 2-1-2 Bottom view of main-deck

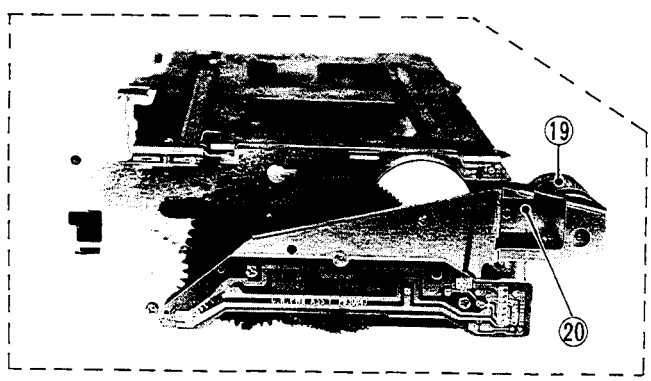


Fig. 2-1-3 Cassette housing

1. Tension arm ass'y
2. Supply slant pole
3. Supply guide roller
4. Roller ass'y
5. Impedance roller
6. Take-up guide pole
7. Capstan shaft
8. Take-up guide roller
9. Take-up slant pole
10. Lower drum ass'y
11. Upper drum ass'y
12. Full erase head
13. A/C head
14. Pinch roller arm ass'y
15. Capstan motor
16. Reel motor
17. Mode motor
18. Mode belt
19. Cassette motor
20. Cassette belt
21. Idler arm
22. Supply main brake
23. Take-up main brake
24. Take-up sub brake
25. Supply reel disk
26. Take-up reel disk
27. Brush ass'y
28. Tension band ass'y

2.1.4 Main parts replacement table

Periodic inspection and maintenance are needed in order to ensure performance and reliability. The following table has been compiled simply to give a general idea regarding maintenance and inspection. In practice, the periods indicated will vary widely according to environmental and usage conditions. Also be aware that rubber parts may deform and age even when the equipment is not used. The upper drum life is particularly affected by environmental and usage conditions.

No.	Parts Name	Parts No.	Periodic servicing schedule (operating hours)								Ref. sect.	Remarks
			1000	2000	3000	4000	5000	6000	7000	8000		
Tape transport system												
1	Tension arm ass'y	PQ41944A-7	★	★	★	○	★	★	★	●		Perform cleaning with finely woven cloth or gauze moistened in alcohol. Confirm that the cleaned loactions are thoroughly dry before operating the deck. For lubrication, use sewing machine oil or good quality spindle oil. After cleaning with alcohol, apply 1 or 2 drops of oil.
2	Supply slanted pole	Ass'y No.	★	★	★	●	★	★	★	●		
3	Supply guide roller	PU60556-2-2	★	★	★	●	★	★	★	●		
4	Roller ass'y	PQ43298A	★	★	★	●	★	★	★	●		
5	Impedance roller	PQ41955	★	★	★	●	★	★	★	●		
6	Take-up guide pole	PU53629-3	★	★	★	○	★	★	★	●		
7	Capstan shaft	–	★	★	★	★	★	★	★	★		
8	Take-up guide roller	Ass'y No.	★	★	★	●	★	★	★	●		
9	Take-up slanted pole	PU60557-1-4	★	★	★	●	★	★	★	●		
10	Lower drum ass'y	PDM2113C	★	★	★	●	★	★	★	●	2.2.1	
11	Upper drum ass'y	PDM2119A	●	●	●	●	●	●	●	●		
12	Full erase head	PU60646	★	★	★	●	★	★	★	●		
13	A/C head	PU60560-2	★	★	★	●	★	★	★	●	2.2.2	
14	Pinch roller arm ass'y	PQ42006B	★	●	★	●	★	●	★	●	2.2.4	
Driving system												
15	Capstan motor	PU60201V	★	○	★	●	★	○	★	●		
16	Reel motor	PU59926V		●		●		●		●	2.2.6	
17	Mode motor	PQ41996B				○				●	2.2.7	
18	Mode belt	PQM30003-20		○		●		○		●	2.2.7	
19	Cassette motor	PQ42385A				●				●		
20	Cassette belt	PQM30003-19		○		●		○		●		
21	Idler arm	PU58645-1-4	★	●	★	●	★	●	★	●	2.2.6	
22	Supply main brake	PQ42019B-6		○		●		○		●		
23	Take-up main brake	PQ42020B		○		●		○		●		
24	Take-up sub brake	PQ42037A-2		○		●		○		●		
25	Supply reel disk	PU59250-1-2		△		○		△		△		
26	Take-up reel disk	PU58638-1-2		△		○		△		△		
Others												
27	Brush ass'y	PDM4015B				●				●	2.2.1	
28	Tension band ass'y	PQ41948A	○	●	○	●	○	●	○	●	2.4.1 2.2.3	←Perform back tension check

(★ = Cleaning. ○ = Check, or replace if necessary. ● = Replacement. △ = Lubricate.)

Table 2-1-2 Main parts maintenance and replacement standard

2.2 MAIN ASSEMBLY REPLACEMENT

No.	Item	Adjustment parts	Operating mode	Description
1	Upper drum assembly			**Note:** When installing the new upper drum, use care not to touch the video heads. If heads are soiled, clean with a soft, finely woven cotton cloth or chamois that has been moistened in alcohol. Hold lightly against the heads and turn the drum clockwise. By no means clean with a vertical stroke.
	— Removal —			1) Refer to Fig. 2-2-1. Take out screw (1) and remove the brush assembly. 2) Use a desoldering tool or desoldering braid to unsolder the upper drum boards. 3) Take out two screws (2) and raise the upper drum to remove it together with the upper drum board. (If this drum is to be reinstalled, use care not to touch or damage the heads.)
	— Installation —			1) Refer to Fig. 2-2-1. Align the black relay pin of the new upper drum with the white marking of the lower drum. 2) Reinsert screws (2) and tighten them in a balanced manner. 3) Reinstall and solder the upper drum boards. 4) Clean the drum assemblies (see above note). 5) Reinstall the brush assembly and secure with screw (1).
	— Checks and adjustments —			After installing the upper drum, perform the following checks and adjustments (refer to appropriate Sections of this Manual). 1) FM waveform (Section 2.6.1) 2) Servo circuit (Section 3.4) 3) Video circuit (Section 3.7, 3.5) 4) FM audio circuit (Section 3.6.3)

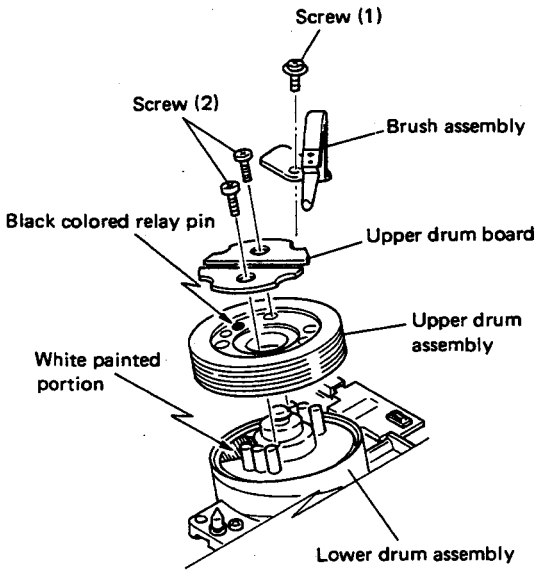
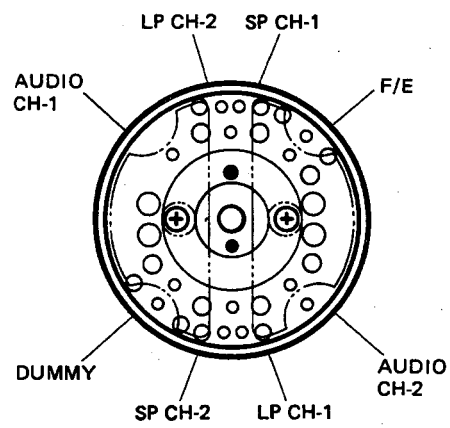


Fig. 2-2-1 Upper drum assembly



No.	Item	Adjustment parts	Operating mode	Description
2	A/C head (Audio/Control head)			
	– Removal –			1) Disengage connectors attached to the A/C head board. 2) Take out two screws (1) and remove the A/C head together with the head base. 3) Unsolder and remove the A/C head board from the A/C head. 4) Take out three screws (3) and remove the A/C head from the head base. Use care regarding the three springs.
	– Installation –			1) Install the A/C head by reversing the removal steps of above. 2) Temporarily set the A/C head height above the head base for 6.5 mm (see Fig. 2-2-3).
	– Checks and adjustments –			1) Use a spare tape (not Alignment tape) and confirm proper operation of the tape transport (see Section 2.5). 2) Perform interchangeability adjustment (see Section 2.6).

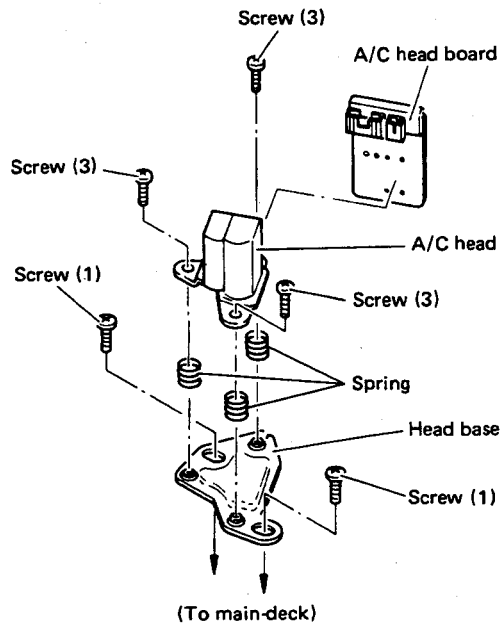


Fig. 2-2-2 A/C head

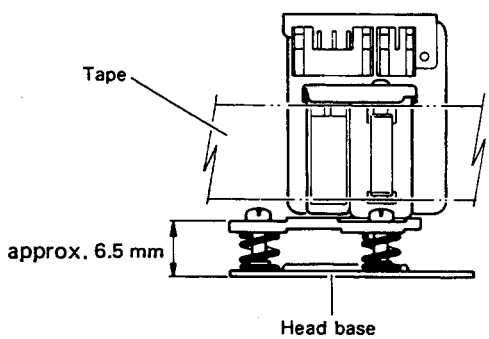


Fig. 2-2-3 A/C head height

No.	Item	Adjustment parts	Operating mode	Description
3	Tension band assembly			1) Take out screw (1) and disengage the tension band assembly from the tension arm assembly (see Fig. 2-2-4). 2) Remove and replace the tension band assembly. 3) Perform tension pole position adjustment (see Section 2.4).
4	Pinch roller arm assembly			1) Take out a slit washer (1) and remove the guide arm assembly (2). 2) Take out a slit washer (3) and the tension spring (4). 3) Remove and replace the pinch roller arm assembly. 4) Secure with a new slit washer (3) (PQM30017-28). 5) Reassemble by reversing the above steps.
5	PARALLEL WIRES			1) Press the clamp as shown and remove the wires.

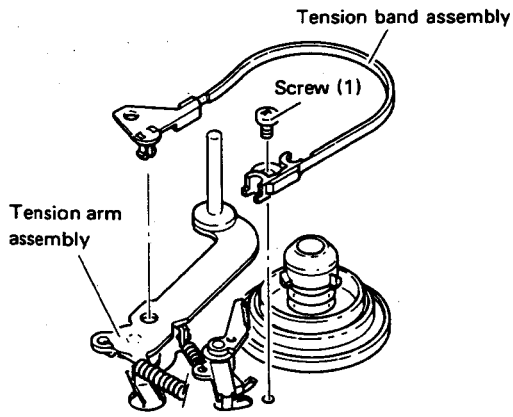


Fig. 2-2-4 Tension band assembly

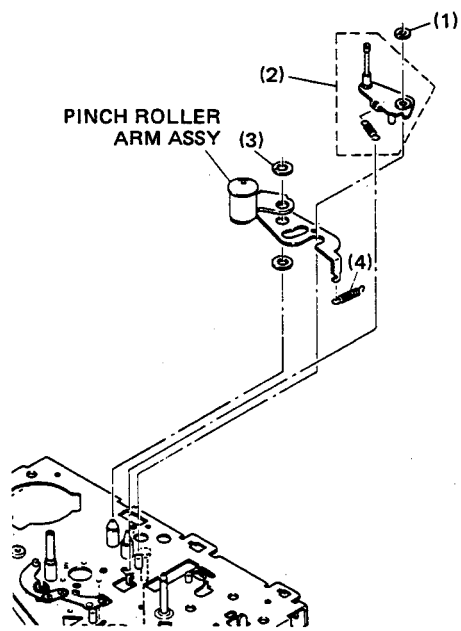


Fig. 2-2-5 Pinch roller assembly

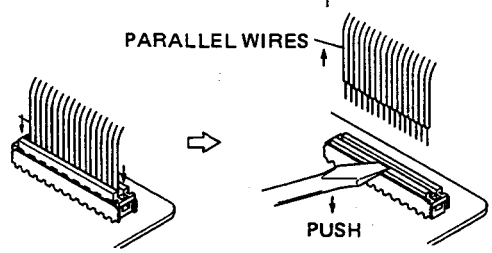


Fig. 2-2-6

No.	Item	Adjustment parts	Operating mode	Description
6	Reel motor and idler arm			1) Disengage the main brake assembly first, by using pliers, pull out one to straight up to remove them. 2) Disengage the spring (1) from the idler arm and move the idler arm in the direction of the arrow to remove it. 3) Unsolder the wire from reel motor. 4) Take out two screws (2) and replace the reel motor assembly. 5) Reassemble by reversing the above steps.
7	Mode motor assembly			1) Refer to Fig. 2-2-8. Take out two screws (1) and raise the relay board assembly. 2) Take out three screws (2) securing the cam bracket sub-assembly to the main deck. 3) Unsolder the wire from mode motor. 4) Take out two screws (3) and replace the mode motor assembly. Reassemble by reversing the above steps. 5) Engage the rubber belt with the pulley.

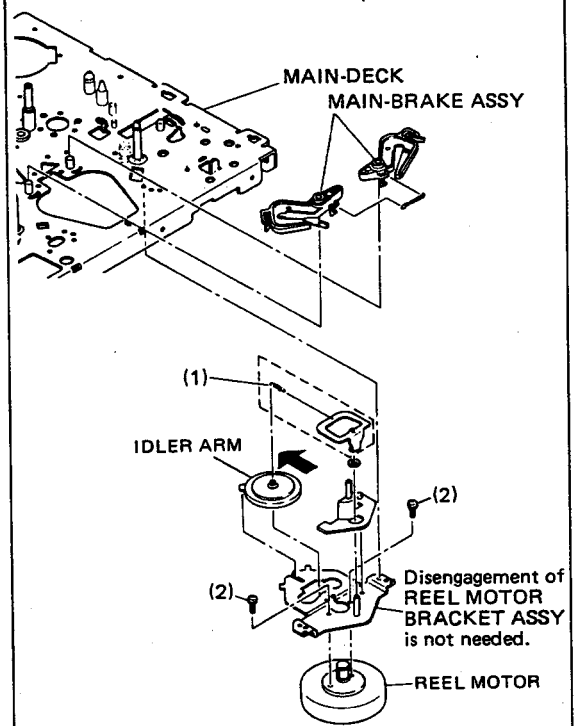


Fig. 2-2-7 Reel motor and idler arm

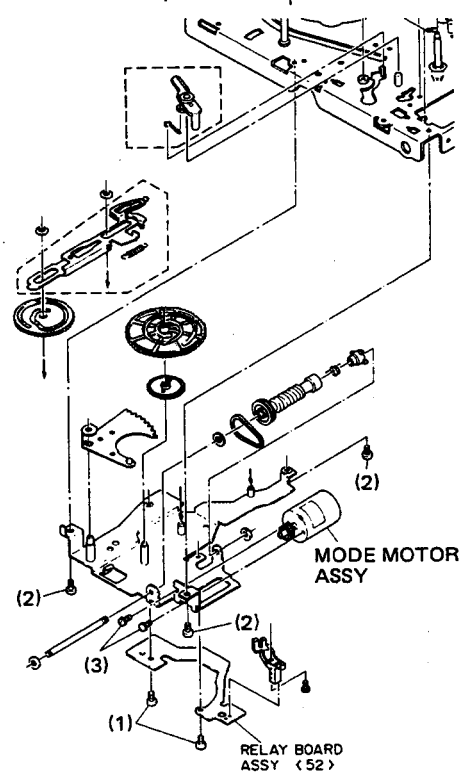


Fig. 2-2-8 Mode motor assembly

2.3 ASSEMBLY PROCEDURE OF MECHANISM

No.	Item	Adjustment parts	Operating mode	Description
	A close relationship exists between the mode select switch and the mechacon circuit. Therefore, the mode select switch and control arm engagement determines the overall mechanical operations of the levers, gears, rollers, etc. If these parts are not properly positioned, the video deck becomes stalled in the unloading or Stop mode.			
1	Loading arm assemblies			These assemblies are comprised of loading gears, torsion springs and loading arms. 1) Refer to Fig. 2-3-1 and install the loading arm assemblies correctly.

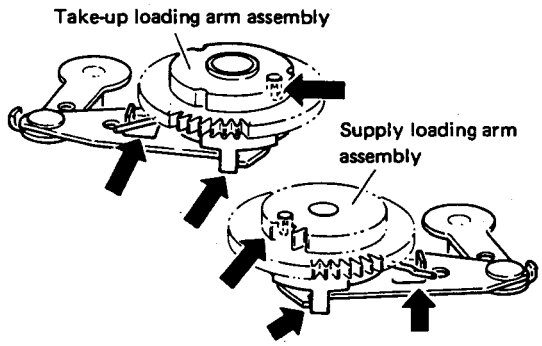


Fig. 2-3-1 Loading arm assembly

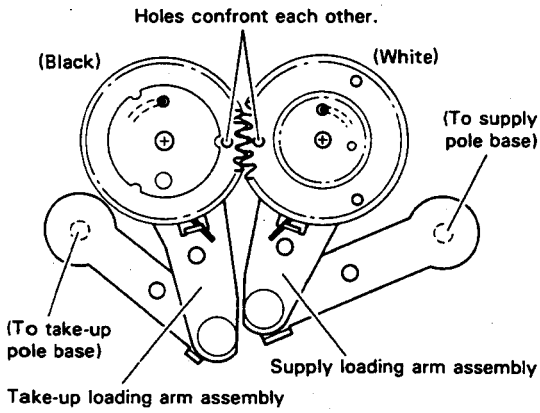


Fig. 2-3-2 Bottom view of loading arm assembly

2) The take-up and supply loading arm positions with respect to the loading gear holes are indicated in Fig. 2-3-2. This configuration is important to allow shifting to the next operation.

No.	Item	Adjustment parts	Operating mode	Description
2	Control cam			1) Install the half loading cam on the cam bracket assembly, then mount the slide cam plate assembly so that its stud sets into the groove on the half loading cam. 2) Install the arm gear assembly on the cam bracket assembly. 3) Assemble the second gear and the control cam so that the stud of the control cam sets into the hole of the second gear. 4) Mount the above assembly (control cam and second gear) on the cam bracket assembly to satisfy the relation indicated in figure. 5) Do not turn the control cam from this position for the next step as shown 2.3.3 Cam bracket assembly.
3	Cam bracket assembly			1) Refer to Fig. 2-3-4 and press the plate assembly toward the right to overlap the indicated holes with that of the main deck. 2) Then install the cam bracket assembly. **Note:** If the arm and loading gears do not mesh properly, use a jeweler's screwdriver or similar tool to engage the gear teeth while installing the cam bracket assembly.
4	Mode switch position			1) Engage the plate assembly and mode switch as shown in Fig. 2-3-5. Partially tighten screw (1) to where the switch can still be shifted for adjusting the position. 2) Press the plate assembly toward the right to where the holes are overlapped as in Fig. 2-3-4. Insert a jeweler's screwdriver into the holes to keep them aligned. 3) Shift the mode switch to align the V-notch as indicated in Fig. 2-3-5. Then tighten screw (1) to secure. 4) Remove the jeweler's screwdriver, then reinstall and solder the circuit board.

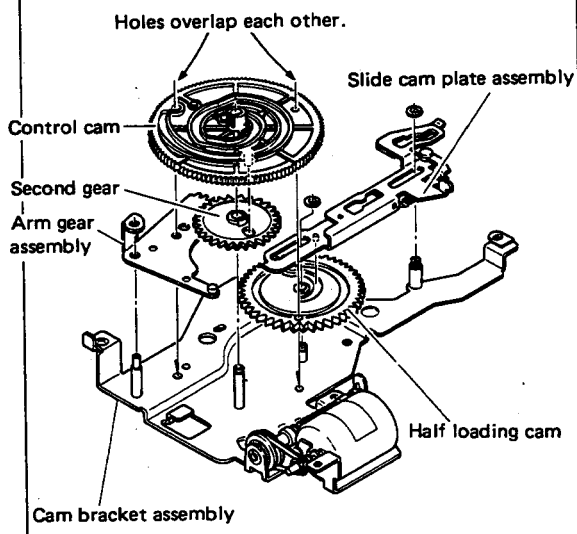


Fig. 2-3-3 Control cam

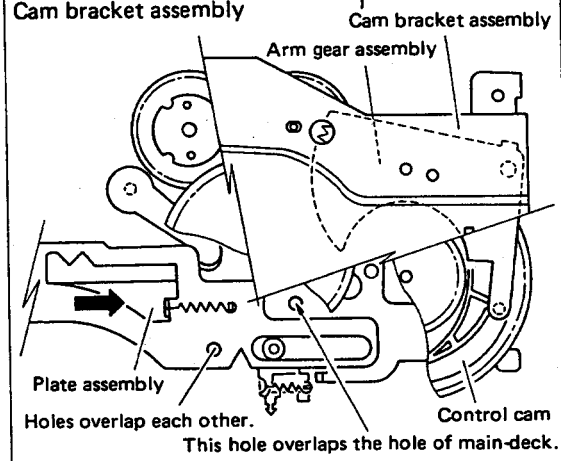


Fig. 2-3-4 Cam bracket assembly

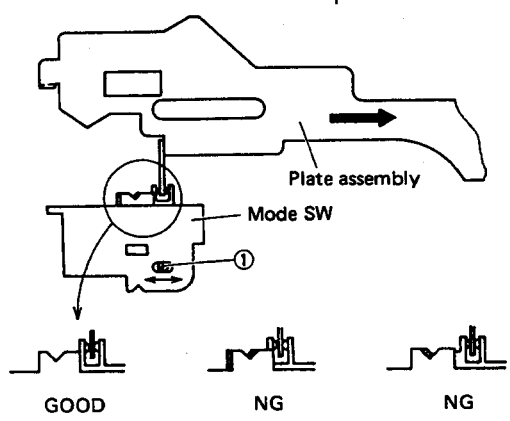


Fig. 2-3-5 Mode switch

2.4 CONFIRMATION AND ADJUSTMENT

No.	Item	Adjustment parts	Operating mode	Description
1	Tension pole position			1) Without a cassette housing, set for the Play mode (see Section 2.1.1). 2) Refer to Fig. 2-4-1. Slightly loosen screw (1). Adjust the tension band holder position for 0 mm separation between the tension arm and cutout position. 3) Tighten screw (1) to secure the tension band holder. 4) Use the cassette torque meter and set for the Play mode. 5) Check for a scale reading between 38 and 65. 6) If outside this range, clean the tension band contacting portions of the supply reel disk with alcohol, or check the condition of the tension arm spring. If necessary, replace the tension band assembly.
2	Take-up torque			1) Use the cassette torque meter and set for the Play mode. 2) Confirm a value between 45 and 155. 3) If outside this range, clean the rubber portion of the idler arm with alcohol, if necessary, or check the reel motor drive circuit.

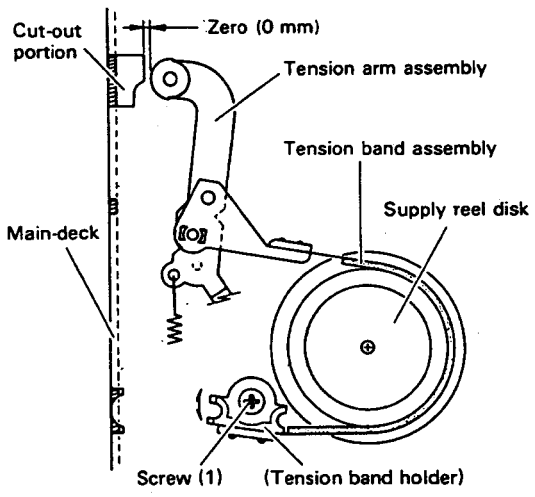


Fig. 2-4-1 Tension pole position

2.5 TAPE TRANSPORT CHECKS AND ADJUSTMENT PREPARATIONS

No.	Item	Adjustment parts	Operating mode	Description
	The tape transport system has been precision-adjusted at the factory and ordinarily does not require readjustment. However, adjustment may become necessary after long term usage or after replacing parts that affect the tape transport. The following steps mainly cover preparations for the interchangeability adjustments of Section 2.6.			
1	Guide roller			1) During interchangeability adjustments, the guide roller is turned with a flat-blade screwdriver to adjust its height and correct FM waveform linearity. Use a metric hex key (1.25 mm) to slightly loosen the setscrew at the base of the guide roller (see Fig. 2-5-1). Loosen the setscrew just sufficiently to allow the guide roller to be turned. If too loose, tape transport will be too unstable to permit correct adjustment.
2	Impedance roller			1) This compensates for tape running stability between the cassette and head drum. After adjusting the supply guide roller, the impedance roller height is adjusted for smooth tape transport at the lower flange. 2) Use a metric nutdriver (5.5 mm) to adjust by turning the upper nut (see Fig. 2-5-2). However, note that excess turning can disturb the FM waveform stability.
3	A/C head (audio/control head)			1) After adjusting the take-up guide roller, adjust the A/C head inclination for smooth tape travel at the lower flange of the take-up guide pole. Refer to Fig. 2-5-3.

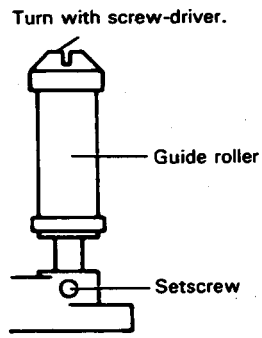


Fig. 2-5-1 Guide roller

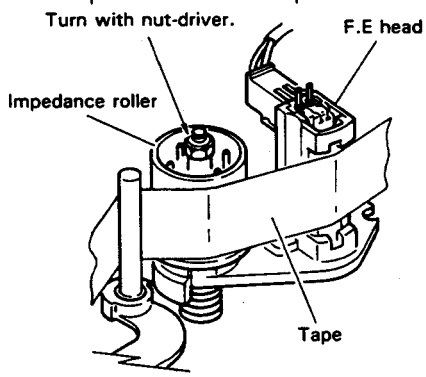


Fig. 2-5-2 Impedance roller

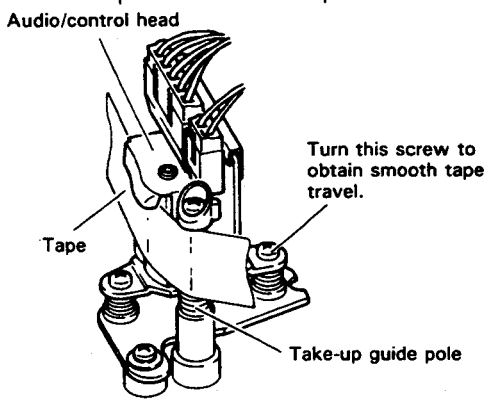


Fig. 2-5-3 A/C head

2.6 INTERCHANGEABILITY CHECKS AND ADJUSTMENTS

No.	Item	Adjustment parts	Operating mode	Description
	Before using costly Alignment tape, use a spare tape and confirm correct operation of the tape transport.			
1	FM waveform			1) Connect an oscilloscope to TP6 of the video PRE/REC board [4] [3] . Trigger the oscilloscope externally with the signal from TP11 of the video board [0] [5] . 2) Playback the MHPE Alignment tape and adjust the tracking for maximum FM waveform output. Refer to Fig. 2-6-1. Confirm the relationships indicated in the figure for maximum output (a), minimum center output (b), minimum output at the drum intake (c) and minimum output at the drum output (d). 3) Adjustment is required if the above specifications are not fulfilled. Even when these are fulfilled, check that the FM waveform varies linearly overall. If not, slight deviation in tracking will cause a large proportional level drop to result in noise appearing in the picture. Therefore, in this condition, proceed to the following checks and perform adjustments where necessary. 4) Operate the tracking adjustment between minimum and maximum outputs of the FM waveform. Observe the portion of the waveform corresponding to the drum intake (see Fig. 2-6-2). As the tracking is adjusted, although the gain may increase or decrease, the geometric shape of this part of the waveform should remain consistent. If the shape varies, as shown by the incorrect examples in the figure, carefully perform adjustment of the supply guide roller height. 5) Next observe the portion of the waveform corresponding to the drum output (see Fig. 2-6-3), while operating the tracking adjustment. This should also vary only in gain, but not in shape. If the shape varies, as shown by the incorrect examples in the figure, carefully perform adjustment of the take-up guide roller height. 6) Check the overall FM waveform. Fine-adjust both guide rollers so that variation is as minimum and linear as possible. 7) Observe the tape travel at the guide rollers and guide poles. Confirm absence of tape creasing or curling. Confirm that the tape properly rides at the lower flange of the supply guide pole. Carefully adjust the guide pole height if necessary. This adjustment is important and affects FM waveform response. If creasing or curling is observed at the take-up guide pole, carefully adjust the audio/control head inclination so that the tape rides properly at the lower flange of the guide pole. Finally, again check the FM waveform.

$\frac{b}{a} \geqq 0.8$, $\frac{c}{a} \geqq 0.7$ and $\frac{d}{a} \geqq 0.7$

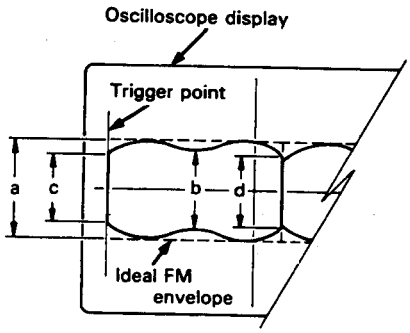


Fig. 2-6-1 FM envelope

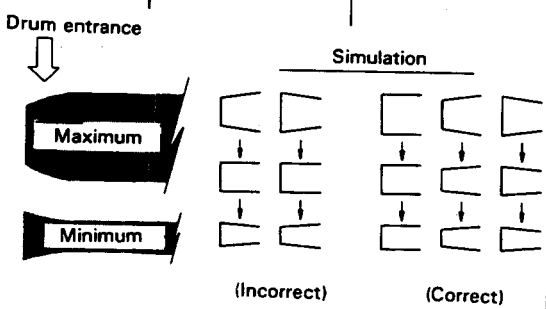


Fig. 2-6-2 Drum entrance

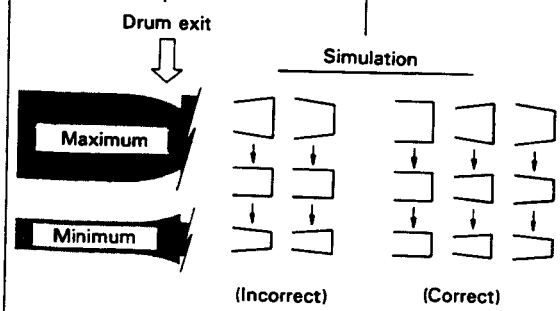
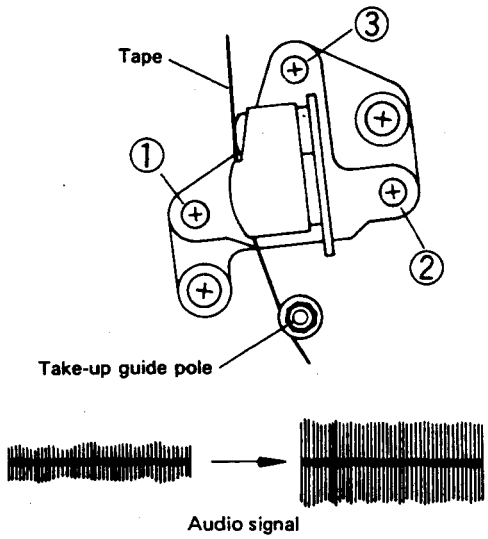
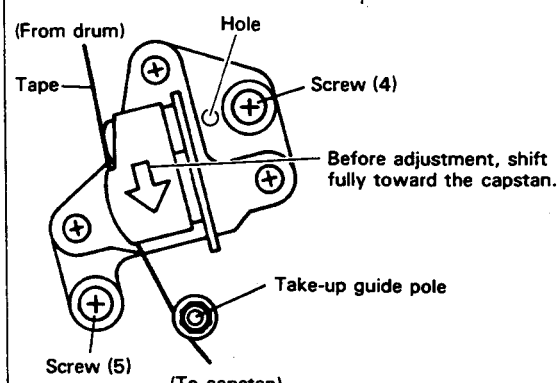


Fig. 2-6-3 Drum exit

No.	Item	Adjustment parts	Operating mode	Description
	Proper adjustment of the A/C head position is important for ensuring adequate audio output and S/N. Severe misalignment can prevent control signal pick-up and cause servo instability. Precise adjustment is particularly important for models that include tape indexing and addressing features, since these rely on control signal coding for operation. To observe the audio signal, connect an oscilloscope to the test point (AUDIO OUT) of the audio circuit, or directly to the audio output terminal. In some cases, monitoring the sound with headphones may be helpful.			
2	A/C head adjustments  Fig. 2-6-4 A/C head			1) Playback the MHPE Alignment tape. 2) Adjust screw (3) (Fig. 2-6-4), which is the azimuth adjustment, for maximum output. 3) Turn screws (1), (2) and (3) by small and equal increments (about 45° at a time) to adjust the A/C head height for maximum audio output. Slightly raise and lower the height to confirm the maximum output position. 4) Observe the FM waveform and tighten the guide roller setscrews. Use care not to disturb the height adjustments. Then again confirm the FM waveform is not affected.
	This determines the distance between the sound and picture information on the tape. Correct adjustment is important for providing synchronization of picture and sound in the program. Incorrect adjustment is particularly noticeable in the slow speed (LP) mode. Observe the FM waveform by connecting an oscilloscope to the video play-back circuit test point (FM OUT). Trigger the oscilloscope externally with the drum flipflop signal. Use plus (–) trigger to view the CH1 waveform. Set the tracking adjustment to the neutral (AUTO) position.			
3	Control head phase (X value)  Fig. 2-6-5 Control head phase			1) Playback the MHPE Alignment tape. 2) See Fig. 2-6-5. Slightly loosen screws (4) and (5). Set the A/C head positioning tool over screw (4) with the pin of the tool inserted into the indicated hole. 3) Turn the tool counterclockwise to shift the A/C head fully toward the capstan direction. 4) While observing the CH-1 FM waveform, gradually turn the tool clockwise. Stop at the peak output position and tighten screw (5). Remove the tool and tighten screw (4). 5) Play back the MHPE-L Alignment tape. 6) Operate the tracking adjustment and confirm that the maximum FM waveform is obtained at the neutral setting. 7) If the FM output peak is not obtained at tracking neutral position, shift the A/C head at the FM output peak nearest to this position.

No.	Item	Adjustment parts	Operating mode	Description
4	Final checks			1) Supply a video signal (monochrome is preferable). Use a spare tape and record and play back. Confirm that the playback FM signal conforms to the parameters indicated in Fig. 2-6-1. 2) Connect the oscilloscope to TP53 (FM OUT) of the audio board [0][9] . Play the stairstep portion (which includes the FM audio carrier) of the MH-F8 Alignment tape. Confirm absence of severe drop in FM waveform level. 3) Perform the checks and, if necessary adjustments, of the Electrical Adjustments Section for the servo, video and audio (and FM audio) circuits.

SECTION 3
ELECTRICAL ADJUSTMENTS

3.1 PREPARATION

Electrical adjustments are required after replacing circuit components and certain mechanical parts.
It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

3.1.1 Required test equipment

1. Color television or monitor
2. Oscilloscope: wide-band, dual-trace, triggered delayed sweep
3. Frequency counter
4. Audio tester
5. Digital voltmerter
6. Signal generator: PAL color bar, stairstep, video sweeper
7. Recording tape
8. Alignment tape: MHPE, MH-2H, MBVE-3H, MH-8
9. Patch cord: PTU94001
   (PRE/REC board to CONNECTOR board)
10. Extension cable: PTU93004A
    (AV IN OUT board to MECHACON board
    SERVO board to MECHACON board)
11. Head resonance adjust coil: PTU94004A
12. RF sweep signal generator (100 kHz – 10 MHz)

3.1.2 Check and adjustment steps

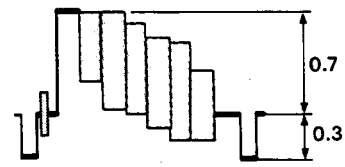
The check and adjustment steps are provided in the following in the form of charts. For clarity, the nomenclature used in the charts is outlined below.

No.	Checks and adjustments are numbered in the recommended sequence in which they are to be performed.
Item	Name assigned to the particular check and adjustment step.
Check Point	Location to which measuring instrument (oscilloscope unless otherwise noted) is to be connected.
Adjustment Parts	Variable component (resistor, capacitor, etc.) to be adjusted in this step. Dash (–) indicates check only.
Signal & Mode	• Input signal required to perform adjustment. Dash (–) indicates that special signal is not required. • Equipment operating mode at time of check or adjustment.
Color bar	Color bar signal as video input.
Stairstep	Stairstep signal as video input.
1 kHz	1 kHz sinewave as audio input signal.
E-E	Power on and machine in Stop mode.
REC	Recording mode
PB	Playback mode
SLOW	Slow motion playback mode
STILL	Pause during playback mode
S-VHS mode (S mode)	Super-VHS mode
N-VHS mode (N mode)	Normal-VHS mode
Description	This column provides an explanation of the step, notes and adjustment values.

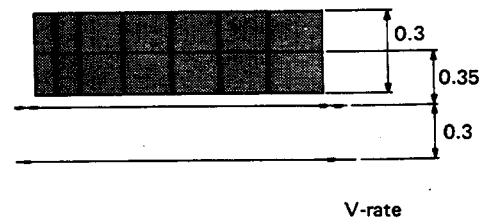
Note: Unless otherwise noted, supply a VIDEO signal to LINE IN (BNC connector), and set the INPUT SW to LINE.

3.1.3 Required test signal

• EBU 100% colour bars



• Video sweep (100 kHz – 5 MHz)



• Sweep

3.1.4 Alignment tape specifications

- **MH-8**

No.	PB time	Video signal	Audio signal	Description
1	2 min.	Color sweep	400 Hz (–10 dB)	for check and adjustment of frequency characteristic in video PB circuits for check and adjustment of frequency characteristic in audio PB circuits (Markers: 100 K, 1M, 2M, 4.43 MHz)
2	2 min.	"	100 Hz (–10 dB)	
3	2 min.	"	8 kHz (–10 dB)	
4	4 min.	"	–	

- **MH-2H**

No.	PB time	Video signal	Audio signal	Description
1	5 min.	Color bars S-VHS SP mode	None	for check and adjustment of PB circuits in S-VHS SP mode
2	5 min.	Color bars S-VHS LP mode	None	for check and adjustment of PB circuits in S-VHS LP mode

- **MHPE**

Video signal	Audio signal	Description	
VHS SP mode Stairstep	6 kHz	for check and adjustment of interchangeability for check and adjustment of the servo circuit for adjustment of audio head azimuth	Usable in place of MH-2 stairstep

- **MBVE-3H** (Handled by Service Engineering Section)

Video signal	Audio signal	Description
S-VHS SP mode Video sweep	–	for check and adjustment of video frequency response (Markers: 1M, 2M, 3M, 4M, 4.43 MHz)

3.1.5 Switches setting

- Unless otherwise noted, perform checks and adjustments with siwtches being initialized as shown below.

  MODE LOCK : OFF
  EDIT : OFF
  REPEAT : OFF
  LEVEL INDICATOR : ON
  INPUT : LINE
  Hi-Fi REC LEVEL : AUTO
  AUDIO OUT to : Hi-Fi

- When any of the above switch was set to another position, make sure to return it to the initial setting every time adjustment/check of an item completed.

3.2 SWITCHING REGULATOR CIRCUIT

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
1	5 V DC output voltage	TP1 TP-GND SW. REG. [0] [2]	R26 SW. REG [0] [2]	• REC	1) Connect a digital voltmeter between TP1 and TP-GND. 2) Set to the REC mode, and adjust R26 for 5.345 ± 0.05 V.
		TP1 | 5.345 ± 0.05 V | ∅R26			
2	Semi-REG 15 V output voltage	CN1 pin 7 SWITCHING [0] [1]	R9 SWITCHING [0] [1]	• REC	1) Connect a digital voltmeter between pin 7 of CN1 and TP-GND. 2) Set to the REC mode, and adjust R9 for 15.2 ± 0.2 V.
		15.2 ± 0.2 V | ∅R9			

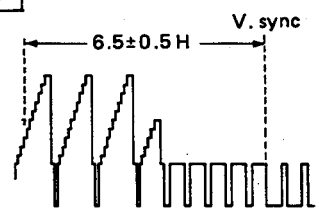
3.3 TIMER CIRCUIT

Note: Unless otherwise noted, all test points and adjustments are located on the TIMER board [2] [0] .

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
1	Timer clock	TP2 TP1 (GND)	C10	• E-E	1) Connect a frequency counter between TP2 and GND. 2) Short between TP3 (TEST) and GND, then short the leads of electrolytic capacitor C8 once in order to reset IC1. 3) Adjust C10 for 2048.000 ± 0.002 Hz (488.2808 to 488.2818 μs).
		TP2 | 2048. ± 0.002 Hz | ∅C10			

3.4 SERVO CIRCUIT

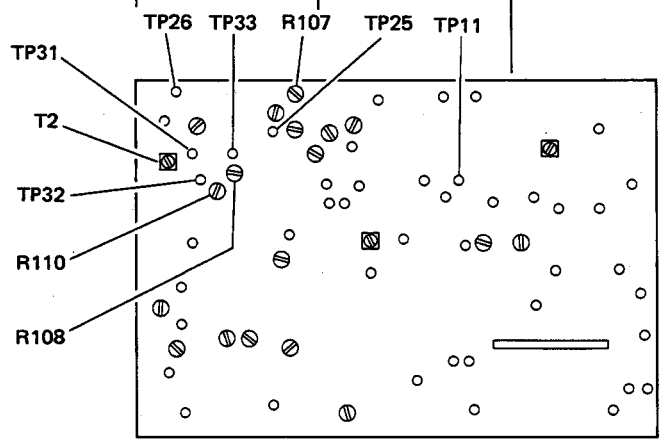
Note: Unless otherwise noted, all test points and adjustments are located on the SERVO board [4] [8] .

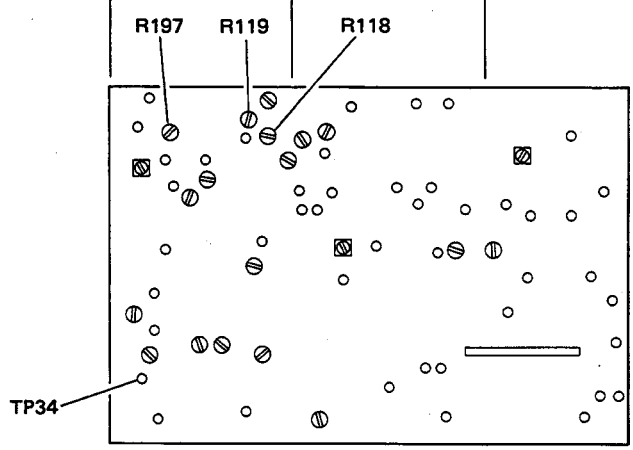
No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
1	PB switching point SW. point | 6.5 ± 0.5H | ⊘R32	VIDEO OUT	R32 (SW POINT) 	• PB • MHPE • Trigger slope (–)	1) Connect an oscilloscope to the VIDEO OUT. 2) Play back the MHPE alignment tape. 3) Trigger the oscilloscope externally (– slope) with the signal from TP11 of the VIDEO board [0] [5] . 4) Adjust R32 to position the trigger point 6.5 ± 0.5H from V. sync.
2	SP slow tracking preset	Monitor	R55 (SP SLOW)	• S-VHS mode • REC ↓ • Slow PB (1/6) • Color bar	1) Set the TRACKING control of the FRONT panel to the preset position by simultaneously pressing the + and – TRACKING buttons. 2) Record a color bar signal, then play back in the Slow mode (press the "<<" variable search button of the remote controller). 3) Adjust R55 to minimize noise bars on the video monitor screen.
	LP slow tracking preset	Monitor	R59 (LP SLOW)	• MH-2H • Slow PB (1/6)	1) Play back the LP segment of MH-2H in the slow mode. 2) Adjust R59 to minimize noise bars on the video monitor screen.
3	SP X2 normal tracking preset	Monitor	R38 (SP X2)	• S-VHS mode • REC ↓ • X2 Play • Color bar	1) Set the TRACKING control of the FRONT panel to the preset position by simultaneously pressing the + and – TRACKING buttons. 2) Record a color bar signal, then play back in the 2X Play mode. 3) Adjust R38 to minimize noise bars on the video monitor screen.
	LP X2 normal tracking preset	Monitor	R36 (LP X2)	• MH-2H • X2 Play	1) Play back the LP segment of MH-2H in the 2X Play mode. 2)Adjust R36 to minimize noise bars on the video monitor screen.
4	V. pulse position	Monitor	R11 (V. LOCK) [REAR panel]	• REC then PB ↓ • STILL • Color bar	1) Record a color bar signal, then play back. 2) In the Still mode, observe the monitor and adjust R11 (REAR panel) for the minimum vertical jitter.

3.5 VIDEO CIRCUIT

Note: Unless otherwise noted, all test points and adjustments are located on the VIDEO board [0] [5] .

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
1	Y comb level	TP25 TP26	R107	• S-VHS mode • E-E • Color bar	1) Connect one channel of a dual trace oscilloscope to TP25 and the other channel to TP26. 2) Set the oscilloscope for ALT mode. 3) Adjust R107 for equal channel levels. TP25 = TP26 ⊘R107
2	2H delayed chroma	TP31 TP32	R110 T2	• S-VHS mode • E-E • Color bar	1) Connect CH-1 of a dual trace oscilloscope to TP31 and CH-2 to TP32. 2) Set VOLT/DIV controls of both channels to the same range (e.g., 50 mV). 3) Invert CH-2 and use ADD mode. 4) Alternately adjust R110 and T2 for minimum level.
3	4H delayed chroma	TP31 TP33	R108 T2	• S-VHS mode • E-E • Color bar	1) In the same manner as above (3.5.2), adjust R108 and T2 for minimum level.
4	Y-comb	TP34	R119 R118 R197	• N-VHS mode • E-E • Color bar	1) Connect an oscilloscope to TP34. 2) Adjust R118, R119 and R197 alternately for minimum chromatic level (less than 40 mVp-p of the magenta portion).





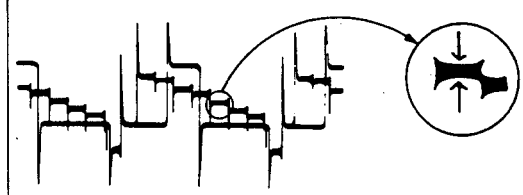
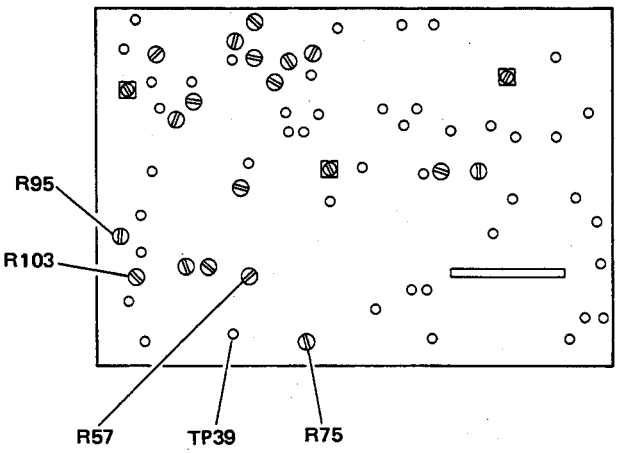
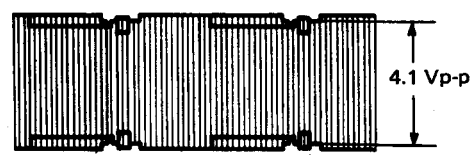
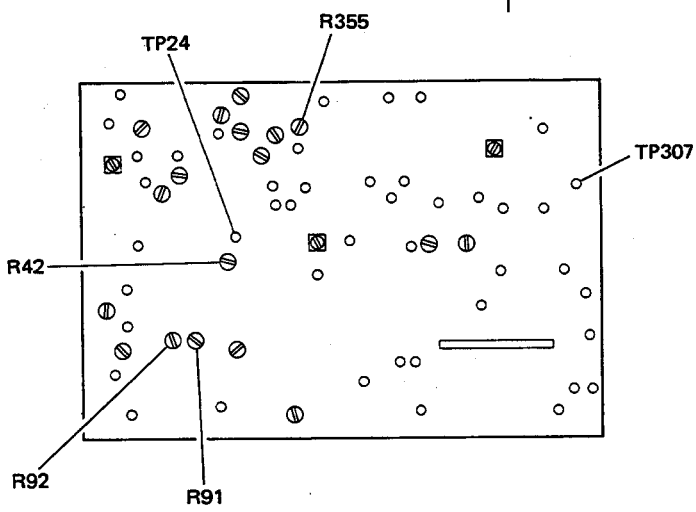


Fig. 3-5-1

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
5	E-E level	VIDEO OUT	R75	• S-VHS mode • E-E • Color bar	1) Connect an oscilloscope to the VIDEO OUT. 2) Adjust R75 for 0.97 ± 0.03 Vp-p (with 75 Ω load).  E-E level | 0.97 ± 0.03 Vp-p | ⊘R75
6	Sub empha. input level	TP39	R57	• S-VHS mode • E-E • Color bar	1) Connect an oscilloscope to TP39. 2) Adjust R57 for 400 ± 20 mVp-p siganl level. TP39 | 400 ± 20 mVp-p | ⊘R57  Fig. 3-5-2
7	S mode REC FM level	TP1 (PRE/REC) 4 3	R103 (S-MODE REC FM)	• S-VHS mode • REC • Color bar	**Note:** Connect an oscilloscope's GND terminal to TP-GND near the shield case of the PRE/REC board. 1) Connect an oscilloscope to TP1 of the PRE/REC board and record a color bar signal. 2) Adjust R103 for 4.1 ± 0.1 Vp-p pedestal level, between centers of the waveform outline at the pedestal portion. TP1 4 3 | 4.1 Vp-p | ⊘R103  Fig. 3-5-3
8	N mode REC FM level	TP1 (PRE/REC) 4 3	R95 (N-MODE REC FM)	• N-VHS mode • REC • Color bar	1) In the same manner as above (3.5.7), adjust R95 for 2.4 ± 0.1 Vp-p pedestal level. TP1 4 3 | 2.4 Vp-p | ⊘R95

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
9	REC color level and balance	TP307	R355	• S-VHS mode • PB • MH-2H • REC then PB • Color bar	**Note:** Use larger-level waveform for adjustment. 1) Connect an oscilloscope to TP307. Play back the SP segment of the MH-2H and observe color signal level. 2) Adjust by pressing the + and – TRACKING buttons of the FRONT panel for maximum level of the color waveform and make a note of the higher color level "A". 3) Set the TRACKING control of the FRONT panel to the preset position by simultaneously pressing the + and – TRACKING buttons. 4) Record and play back a color bar signal. If necessary, before recording, adjust R355 so that the higher level channel becomes 110% of the noted level "A" during playback. At this time, confirm that the channel difference is within 3 dB.
10	N mode PB Y level	VIDEO OUT	R91 (N-MODE PB Y LEVEL)	• N-VHS mode • REC then PB • Color bar	1) Connect an oscilloscope to the VIDEO OUT. 2) Record a color bar signal, then play it back. 3) Adjust R91 for 0.97 ± 0.03 Vp-p (with 75Ω load).
11	S mode PB Y level	VIDEO OUT	R92 (S-MODE PB Y LEVEL)	• S-VHS mode • REC then PB • Color bar	1) In the same manner as above (3.5.10), adjust R92 for 0.97 ± 0.03 Vp-p (with 75Ω load).
12	Sharpness preset	TP24	R42	• S-VHS mode • E-E • Sweeper	1) Connect an oscilloscope to TP24. 2) Adjust R42 so that the 2 MHz mark, in the state of EDIT SW "OFF", becomes nearly equal to that in the state of EDIT SW "ON".



Y level	0.97 ± 0.03 Vp-p	∅R91

Y level	0.97 ± 0.03 Vp-p	∅R92

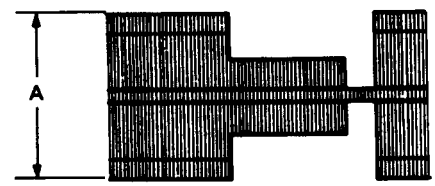
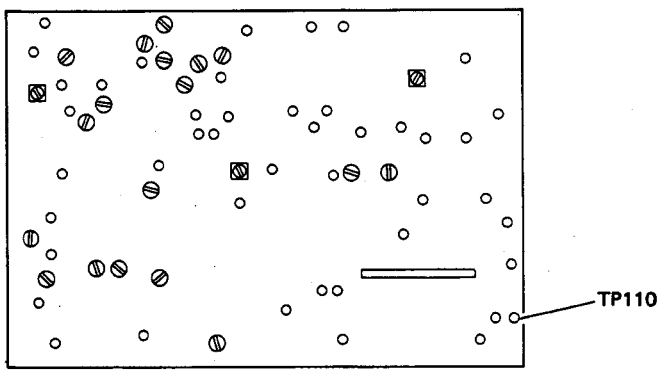


Fig. 3-5-4

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
13	S mode frequency response and balance	TP110	R108 [PRE/REC PWB] 4 3	• S-VHS mode • MBVE-3H • PB	1) Play back the MBVE-3H alignmfent tape and adjust by pressing + and – TRACKING buttons for maximum FM level at TP6 (PRE/REC board). 2) Set 100 kHz level to 4 scale div. on the oscilloscope screen. 3) Adjust R108 (PRE/REC board) so that the 3.0 MHz level becomes from 3.4 to 3.8 scale divisions (–1 ± 0.5 dB). 4) Confirm that the level difference between both channels is less than 2 dB. **Note:** Contact JVC regarding the MBVE-3H alignment tape.
		freq. response	–1 ± 0.5 dB	∅R108 (PRE/REC)	
14	N mode frequency response and balance	TP110	R130 [PRE/REC PWB] 4 3	• N-VHS mode • MH-8 • PB	1) Play back the MH-8 alignment tape and adjust by pressing + and – TRACKING buttons for maximum FM level at TP6 (PRE/REC board). 2) Set 100 kHz level to 4 scale div. on the oscilloscope screen. 3) Adjust R130 (PRE/REC board) so that the 2.0 MHz level becomes from 3.4 to 3.8 scale divisions (–1 ± 0.5 dB). 4) Confirm that the level difference between both channels is less than 2 dB.
		freq. response	–1 ± 0.5 dB	∅R130 (PRE/REC)	



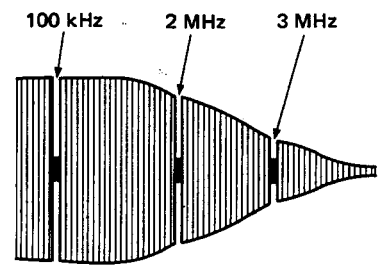


Fig. 3-5-5

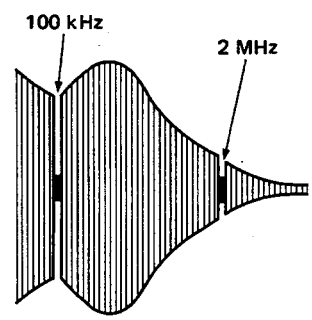
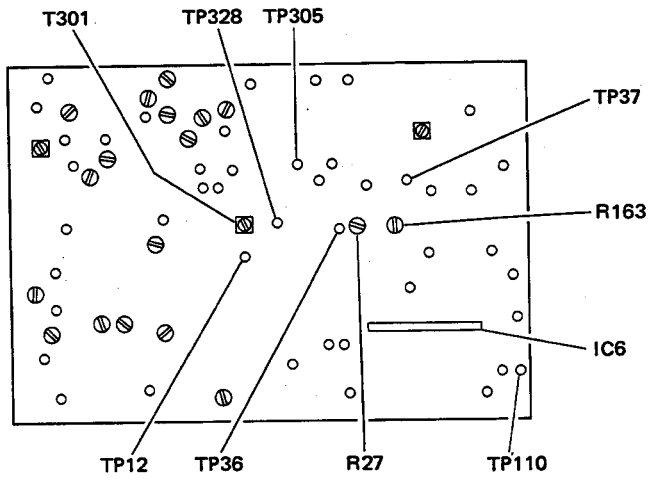


Fig. 3-5-6

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
15	0.5H delayed color level	TP110	R9 (incl. IC6)	• MH-2H • STILL	1) Connect an oscilloscope to Y OUT or TP110. 2) Play back the LP segment of alignment tape MH-2H. 3) Set to the STILL mode, adjust R9 so that Y level is equal.
16	APC error phase	TP305 TP328	T301	• REC then PB • Color bar	1) Connect one channel of a dual trase oscilloscope to TP305 and the other channel to TP328. Trigger the oscilloscope exterrally (– slope) with the signal from TP12 (H. SYNC). 2) Adjust T301 to position the zero-cross 30 μsec ± 3 μsec from the center of the burst signal as shown in the figure.
17	0.25H delayed VIDEO	TP36 TP37	R163 R27	• E-E • Color bar	1) Connect one channel of a dual-trace oscilloscope to TP36 and the other channel to TP37. 2) Adjust R163 for maximum output level at TP36. 3) Set the oscilloscope for ALT mode. 4) Adjust R27 for equal channel levels.



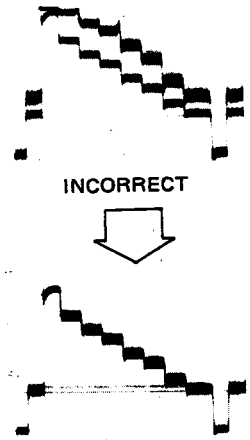


Fig. 3-5-7

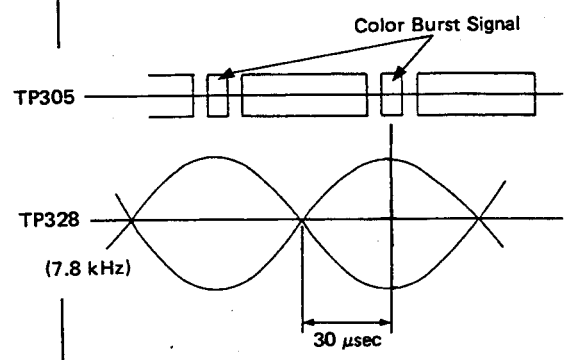


Fig. 3-5-8

TP36 = TP37	∅R27

3.6 AUDIO CIRCUIT

Note: Unless otherwise noted, all test points and adjustments are located on the AUDIO board [0][9].

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
1	Audio bias level	TP31 TP32 (GND)	R9 (BIAS ADJ)	• N-VHS mode • No signal • REC	1) Connect a millivoltmeter between TP31 and TP32. 2) Set for REC mode without signal. 3) Adjust R9 for 2.2 mVrms.
		Bias level | 2.2 mVrms | ∅R9			
2	Audio PB level	AUDIO OUT	R28 (PB LEVEL ADJ)	• 1 kHz, –8 dBs • N-VHS mode • REC then PB • AUDIO OUT to NORMAL	1) Connect an audio tester to AUDIO OUT. 2) Supply an audio signal (–8 dBs/1 kHz) to AUDIO IN and record together with a video signal, then play back. 3) Adjust R28 so that the audio output level during palyback becomes –6 ± 1 dBs.
		PB level | –6 ± 1 dBs | ∅R28			
3	REC FM level	TP53	R80 (FM REC ADJ)	• S-VHS mode • REC then PB • No signal • Color bar	1) Set for REC mode, without an audio signal, then play back. 2) Adjust R80 for 50 mVp-p ± 5 mV FM audio playback voltage.
		FM level | 50 mVp-p | ∅R80			
4	Level indicator	FDP (LEVEL IND.)	R73 (LEVEL IND [L])	• 1 kHz, –8 dBs • AUDIO OUT to Hi-Fi • E-E • LEVEL INDICATOR SW: ON • Hi-Fi REC LEVEL SW: MANUAL	1) Supply a 1 kHz, –8 dBs audio signal to AUDIO IN. 2) Adjust Hi-Fi REC level controls so that the audio output level become –6 dBs both on L and R channels. 3) In the E-E (Stop) mode, adjust R73 to the point where the FDP level indicators show 0 dB.
			R74 (LEVEL IND [R])		4) In the same manner, adjust R74 for the R (CH-2) channel.

3.7 PRE/REC CIRCUIT

Note: Unles otherwise noted, all test points and adjustments are located on the PRE/REC board [4] [3] .

No.	Item	Check Point	Adjustment Parts	Signal & Mode	Description
1	Video head resonance & Q (quality factor)	TP6	CH1 C7 (F) R11 (Q)	• RF sweeper • E-E • S-VHS mode	**Note:** (1) This adjustment is required only after replacing the upper drum (video heads). (2) Connect ground of probe (oscilloscope) to shield case of the PRE/REC board. (3) A drum assembly is supported on the desk because of rotation. 1) Insert an S-VHS tape and set for the E-E mode. 2) Connect an oscilloscope to TP6 of the PRE/REC board. Supply a sweeper generator output to adjustment jig as shown in Fig. 3-7-2, then adjust the sweeper generator gain so that the waveform does not distort at TP6. 3) Trigger the oscilloscope externally with the signal from trigger output (VD) of the sweeper generator. 4) Use (–) trigger for CH-1 and (+) trigger for CH-2. Adjust C7 and C5 to set the CH-1 and CH-2 resonance point to 8 MHz. Use the control of the oscilloscope to position the 1 MHz region at graduation 2 of the oscilloscope scale. 5) Adjust R11 to position the 8 MHz portion at 4 of the oscilloscope graduation as shown in Fig. 3-7-1. 6) In the same manner, adjust R15 for CH-2.
				• RF sweeper ↓ TP1 [4] [3] • PB • S-VHS mode	**Note:** It is recommended to proceed with the above-mentioned adjusting manner. However, if the above method cannot be performed for some reason, proceed to adjust according to the following manner. 1) Connect an oscilloscope to TP6 and supply a sweeper generator output to TP1. 2) Set to the Play mode with a blank (not yet used) cassette tape. 3) Trigger the oscilloscope externally with the signal from TP11 of the VIDEO board. 4) In the same manner as above steps 4) to 6).

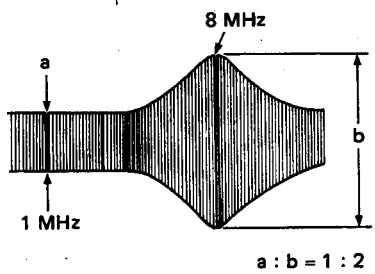


Fig. 3-7-1

	Fo	Q
CH1	C7	R11
CH2	C5	R15

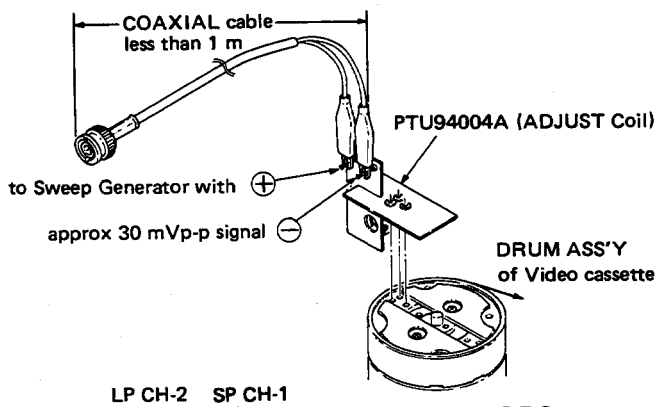


Fig. 3-7-2

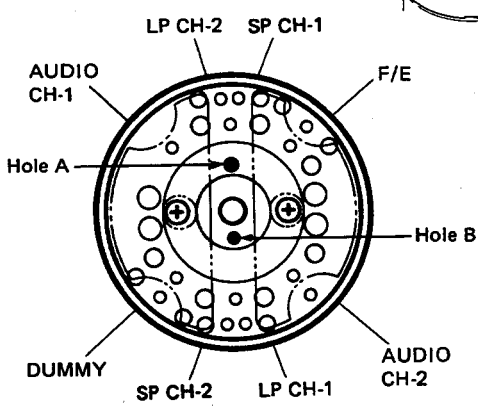
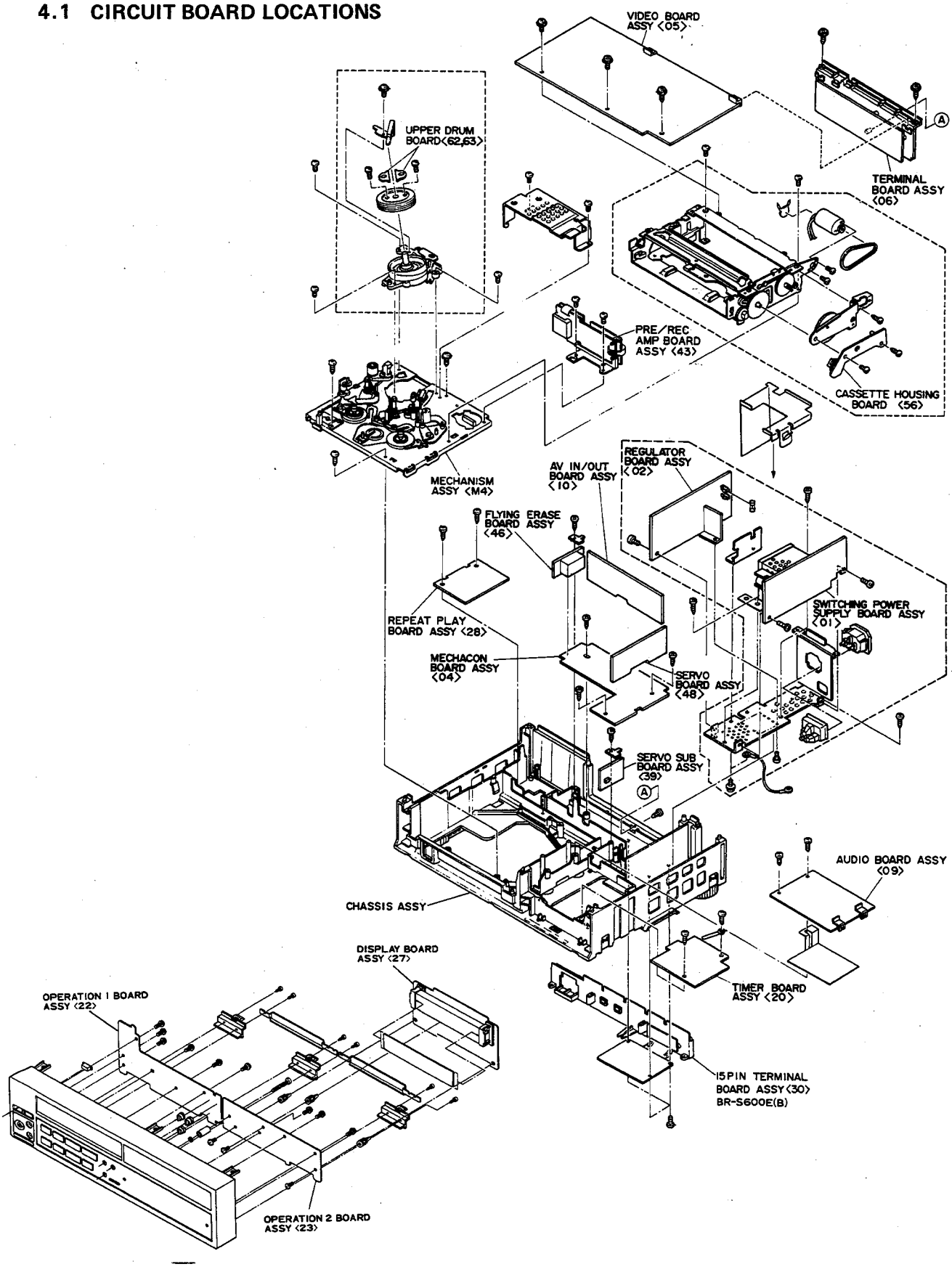


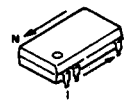
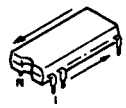
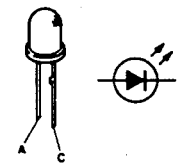
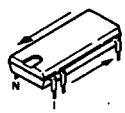
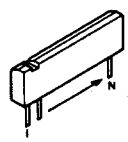
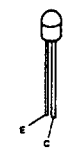
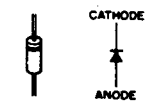
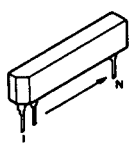
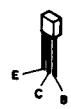
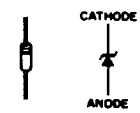
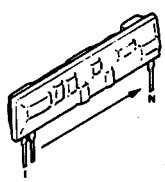
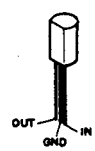
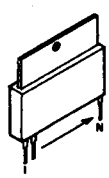
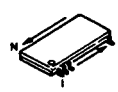
Fig. 3-7-3

SECTION 4
CHARTS AND DIAGRAMS

4.1 CIRCUIT BOARD LOCATIONS



4.2 MAIN TYPES OF ACTIVE AND PACKAGE CIRCUITS

	Integrated Circuit		Transistor		Diode
	A	B	C	D	E
1					
2					
3					
4					
5					

NAME		L
IC		
A	AN6041	3A
B	BA10324	2A
	BA716LS	2B
	BU3791	2A
H	HZ118070	1A
	HD49722NT	1A
M	MC7805ACT	5A
	MSC1148BRS	2A
	MSM16811RS	1A
	M50445-398SP	1B
	M50938-625SP	2A
	M51288SP	1A
	M52055P	2A
N	NJM2233AD	1A
	NJM2234D	1A
	NJM2234S	3B
	NJM2243S	3B
P	PB20167A-01	4A
	PB20285A	4A
	PB20286A-01	4A
	PB20287A-02	4A
	PB20289A-02	4A
	PB20290A-02	4A
	PB20291A	4A
	PB20298A	4A

NAME		L
S	SDA5642	2A
	STR-D1706	5A
	S-8053HNB	4B
T	TA8405S	3B
	TA8609P	1B
	TA8733F	5B
	TC4052BP	1B
	TC74HC04AP	1A
	TC74HC4066P	1B
U	UPD75216ACW-188	1B
V	VC2063S	2A
TRANSISTOR		
DTC	DTC124EK	1C
P	PN268R-NC	2D
U	UN4319VI	3C
2SA	2SA1036K	1C
2SC	2SC1740	3C
	2SC2647	2C
	2SC3311A	3C
	2SC3313CTA	3C

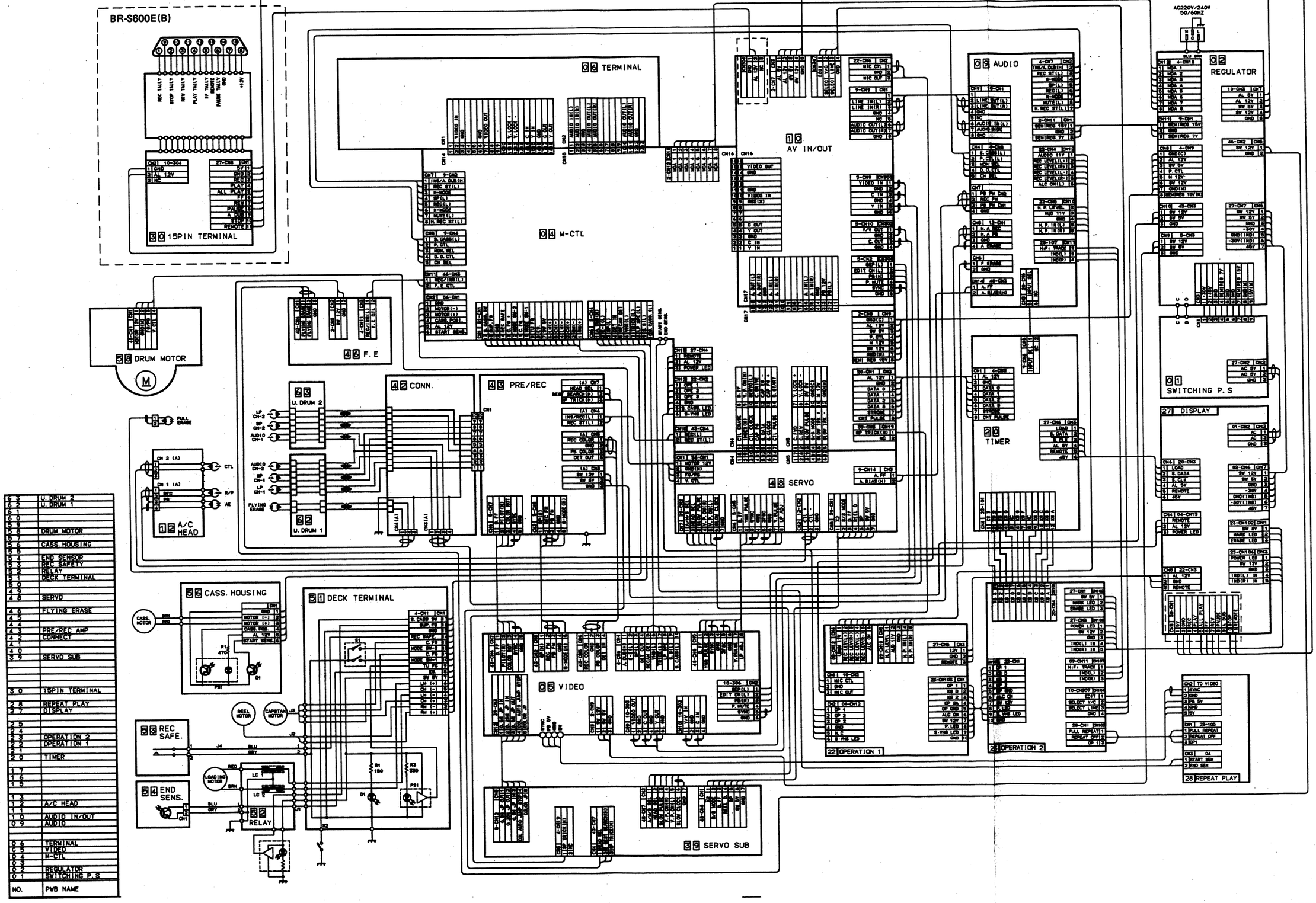
NAME		L
2SD	2SD639R	2C
2SK	2SK658	1D
DIODE		
H	HZ12A2	3E
	HZ6BITE	3E
M	MTZJ4.7C	3E
O	OA90UF	2E
R	RD16ES-T1B2	3E
	RD20ES-T1B2	3E
S	SLR-55VC3F	1E
1	10E6-F2	2E

4.3 ABBREVIATIONS USED IN THE SCHEMATIC DIAGRAMS

A	AC	: Alternating Current
	ACC	: Automatic Color Control
	ACCEL	: Acceleration
	A/CTL	: Audio/Control
	ADC	: Analog to Digital Converter
	ADD	: Adder
	ADRS	: Address
	ADJ	: Adjustment
	A DUB	: Audio Dubbing
	AE	: Audio Erase
	AEF	: Automatic Editing Function
	AFC	: Automatic Frequency Control
	AFT	: Automatic Fine Tuning
	AGC	: Automatic Gain Control
	AH	: Audio Head
	AL	: After Loading
	ALC	: Automatic Light Compensation Automatic Level Control
	AM	: Amplitude Modulation
	AMP	: Amplifier
	ANT	: Antenna
	APC	: Automatic Pedestal Control Automatic Phase Control
	APL	: Average Picture Level
	A/S/M	: Audio/Servo/Mechacon
	ASS'Y	: Assembly
	ATT	: Attenuator
	AUD	: Audio
	AUTO	: Automatic
	AUX	: Auxiliary
B	B	: Base
	BAL	: Balance
	BATT	: Battery
	BFP	: Burst Flag Pulse
	BIT	: Binary Digit
	BLK	: Black, Blanking
	BLU	: Blue
	BILING	: Bilingual
	BPF	: Bandpass Filter
	BRK	: Brake
	BRN	: Brown
	BT	: Band Tuning
	BUFF	: Buffer
	BW or B/W	: Black and White
C	C	: Capacitance, Collector, Color
	CAP	: Capstan, Capacitor
	CAR	: Carrier
	CARR	: Carrier
	CASS	: Cassette
	CCD	: Charge Coupled Device
	CCT	: Circuit
	CD	: Count Down
	CE	: Chip Enable
	CF	: Ceramic Filter
	CH	: Channel
	CHG	: Charge
	CHROMA	: Chrominance
	CLK	: Clock
	CLR	: Clear
	CMD	: Command
	CNT	: Count, Counter
	COL	: Color
	COM	: Common
	COMB	: Combination Comb Filter
	COMP	: Comparator Composite Compensation
	CONN	: Connector
	CONV	: Converter
	CP	: Circuit Protector Clamp Pulse
	CPC	: Capstan Phase Control
	CTL	: Control
D	D	: Drum, Digital, Diode, Drain
	DAC	: Digital to Analog Converter
	dB	: Decibel
	DC	: Direct Current
	DEC	: Decoder
	DEMOD	: Demodulator
	DEMUX	: Demultiplexer
	DET	: Detector
	DEV	: Deviation
	DIF	: Differential
	DISCR	: Discriminator
	DL	: Delay Line
	DOC	: Dropout Compensator
	DOD	: Drop Out Detector
	DPC	: Drum Phase Control
E	E	: Edit, Emitter
	E-E	: Electric to Electric
	EF	: Emitter-Follower
	EMP	: Emphasis
	EN	: Enable
	ENC	: Encoder
	ENV	: Envelope
	EP	: Extended Play
	EQ	: Equalizer
	ES	: Electronic Switch
	ESNS	: End Sensor
	EXP	: Expander
	EXT	: External
F	F	: Farad, Fuse
	F ADV	: Frame Advance
	FDP	: Fluorescent Display Panel
	FE	: Full Erase
	FET	: Field Effect Transistor
	FF	: Fast Forward Flipflop
	FG	: Frequency Generator
	FM	: Frequency Modulation
	FMA	: FM Audio
	FR	: Full Recording, Frame, Fusible Resistor
	FREQ	: Frequency
	F-V CONV	: Frequency to Voltage Converter
	FWD	: Forward
	FWD S	: Forward Search
G	G	: Green, Gate, Grid
	GEN	: Generator
	GND	: Ground
	GRN	: Green
	GRY	: Gray
H	H	: High, Henry, Hour
	HG	: Hall Generator
	HPF	: Highpass Filter
	Hz	: Herz
I	IC	: Integrated Circuit
	ID	: Identification (Pulse)
	IF	: Intermediate Frequency
	IFR	: Infrared
	IFT	: Intermediate Frequency Transformer
	IND	: Indicator
	INH	: Inhibit
	INS	: Insert
	INT	: Internal, Interrupt
	INV	: Inverter
	I/O	: Input/Output
	IR	: Infrared
L	L	: Low, Left
	LIM	: Limiter
	LIN	: Linearity
	LOAD	: Loading (Cassette)
	LP	: Long Play
	LPF	: Lowpass Filter

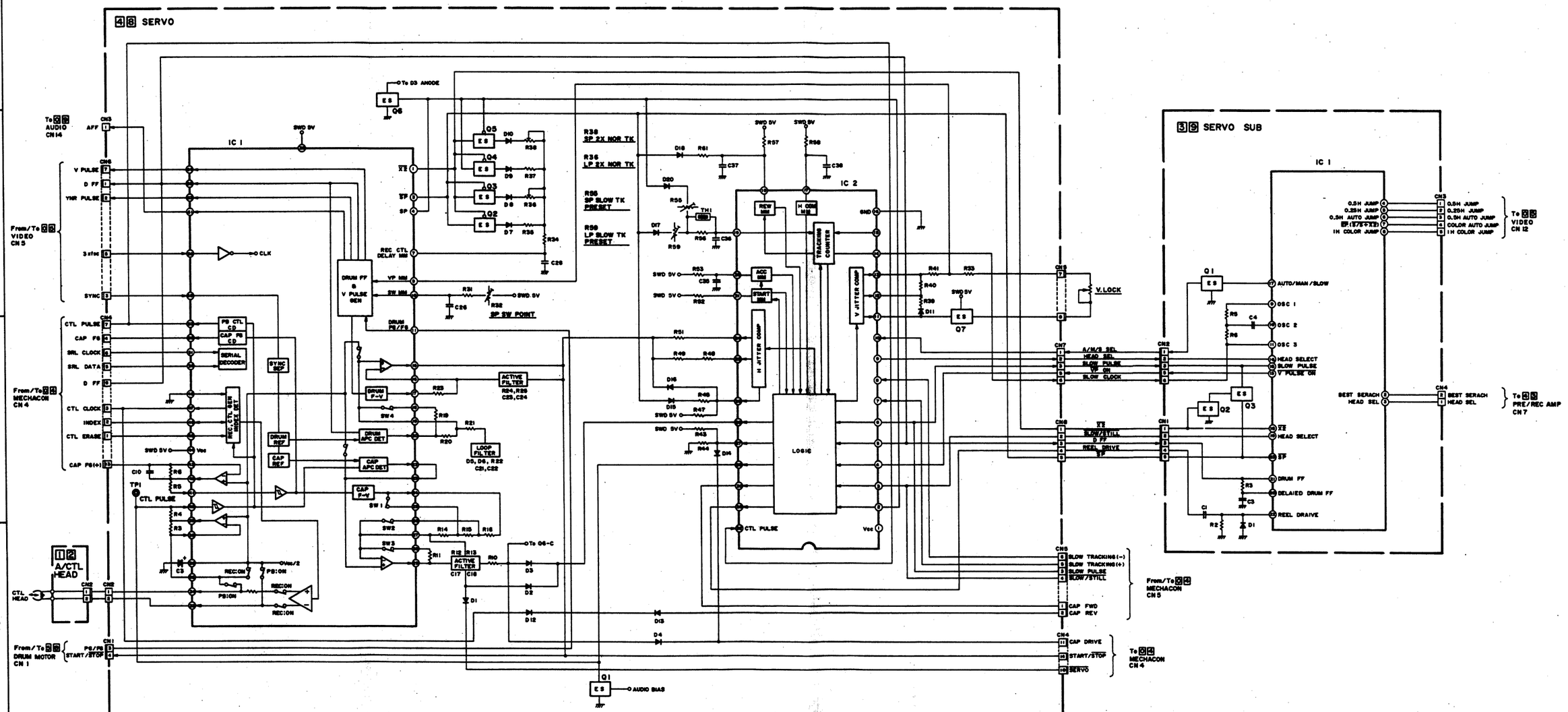
M	M	: Motor, Mega
	MAX	: Maximum
	MDA	: Motor Drive Amplifier
	MECHACON	: Mechanism Control
	MI	: Multiintroduce
	MIC	: Microphone
	MIN	: Minimum
	MIX	: Mixer, Mixing
	MMV	: Monostable Multivibrator
	MOD	: Modulation, Modulator
	MODEM	: Modulator-Demodulator
	MON	: Monitor
	MPX	: Multiplexer, Multiplex
	MS	: Mode Select
N	NAND	: Not-And
	NC	: Not Connected, Normally Closed
	NFB	: Negative Feedback
	NLN	: Non-Linear
	NO	: Normally Open
	NOR	: Normal, Not-Or
	NR	: Noise Reduction
O	OP	: Operation
	OPAMP	: Operational Amplifier
	ORN	: Orange
	OSC	: Oscillator
P	PB	: Playback
	PC	: Photocoupler, Pulse Counter
	PCM	: Pulse Code Modulation
	PG	: Pulse Generator
	PGM	: Program
	PI	: Photo Interrupter
	PIF	: Picture Intermediate Frequency
	PLA	: Programmable Logic Array
	PLL	: Phase Locked Loop
	POS	: Position
	p-p	: Peak-to-Peak
	PREAMP	: Preamplifier
	P/S	: Pause/Still
	PSC	: Pulse Swallowing Control
	PU	: Pickup
	PUT	: Programmable Unijunction Transistor
	PWM	: Pulse Width Modulation
	PWR	: Power
Q	Q	: Quality Factor
R	R	: Red, Right
	RA	: Resistor Array
	RAE	: Random Access Enable
	RAM	: Random Access Memory
	REC	: Recording
	REF	: Reference
	REG	: Regulated, Regulator
	REM	: Remote
	REMOCON	: Remote Control (Unit)
	REV	: Reverse
	REV S	: Reverse Search
	REW	: Rewind
	R/P	: Record/Playback
	RPT	: Repeat
	RST	: Reset
	RT	: Rotary Transformer
	RUN	: Running
	RY	: Relay
S	SAW	: Sawtooth, Surface Acoustic Wave
	SC	: Subcarrier, Simulcast
	SCH	: Search
	SEL	: Select, Selector
	SENS	: Sensor
	SEP	: Separator
	SF	: Source Follower
	SFF	: Short Fast Forward
	SIF	: Sound Intermediate Frequency
	SHARP	: Sharpness
	SN	: Signal to Noise Ratio
	SOL	: Solenoid
	SP	: Standard Play
	SREV	: Search Reverse
	SREW	: Short Rewind
	S/S	: Slow/Still
	SSG	: Sync Signal Generator
	SSNS	: Start Sensor
	STD	: Strobe Data, Standard
	SUP	: Supply
	SW	: Switch
	SWD	: Switched
	SYNC	: Synchronization
T	TF	: Thermal Fuse
	TIM	: Timing
	TK	: Tracking
	TNR	: Tuner
	TP	: Test Point
	TPZD	: Trapezoid
	TR	: Transistor, Trimmer
	TRANS	: Transformer
	TU	: Take-up
U	UL	: Unloading
	UNREG	: Unregulated
	UNSW	: Unswitched
V	V	: Vertical, Volt
	VCO	: Voltage Controlled Oscillator
	VD	: Vertical Drive
	VIF	: Video Intermediate Frequency
	VLT	: Violet
	VR	: Variable Resistor
	VS	: Video and Sync
	V/T	: Video/Television
	V/U	: VHF/UHF
	VXO	: Variable Crystal Oscillator
W	W	: Watt
	W & D	: White and Dark
	WHT	: White
X	XTAL	: Crystal
Y	Y	: Luminance
	YEL	: Yellow

4.4 OVERALL WIRING DIAGRAM



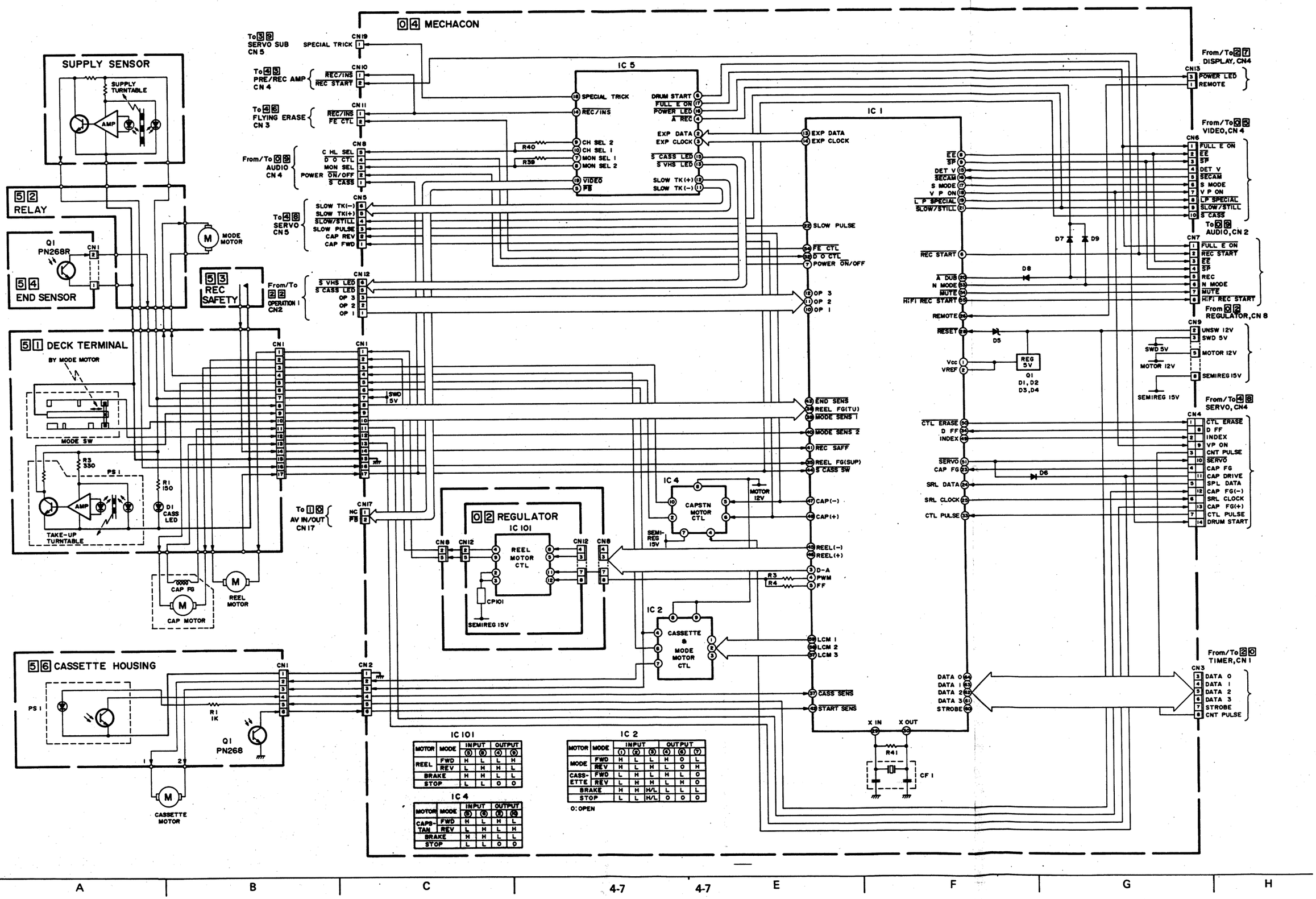
NO.	PWB NAME
53	U. DRUM 2
52	U. DRUM 1
51	
50	
49	
48	DRUM MOTOR
47	
46	CASS. HOUSING
45	
44	END SENSOR
43	REC SAFETY
42	RELAY
41	DECK TERMINAL
40	
49	
48	SERVO
47	
46	FLYING ERASE
45	
44	
43	PRE/REC AMP
42	CONNECT
41	
40	
39	SERVO SUB
30	15PIN TERMINAL
28	REPEAT PLAY
27	DISPLAY
25	
24	
23	OPERATION 2
22	OPERATION 1
21	
20	TIMER
17	
16	
15	
13	
12	A/C HEAD
11	
10	AUDIO IN/OUT
09	AUDIO
06	TERMINAL
05	VIDEO
04	M-CTL
02	REGULATOR
01	SWITCHING P.S

4.5 SERVO BLOCK DIAGRAM

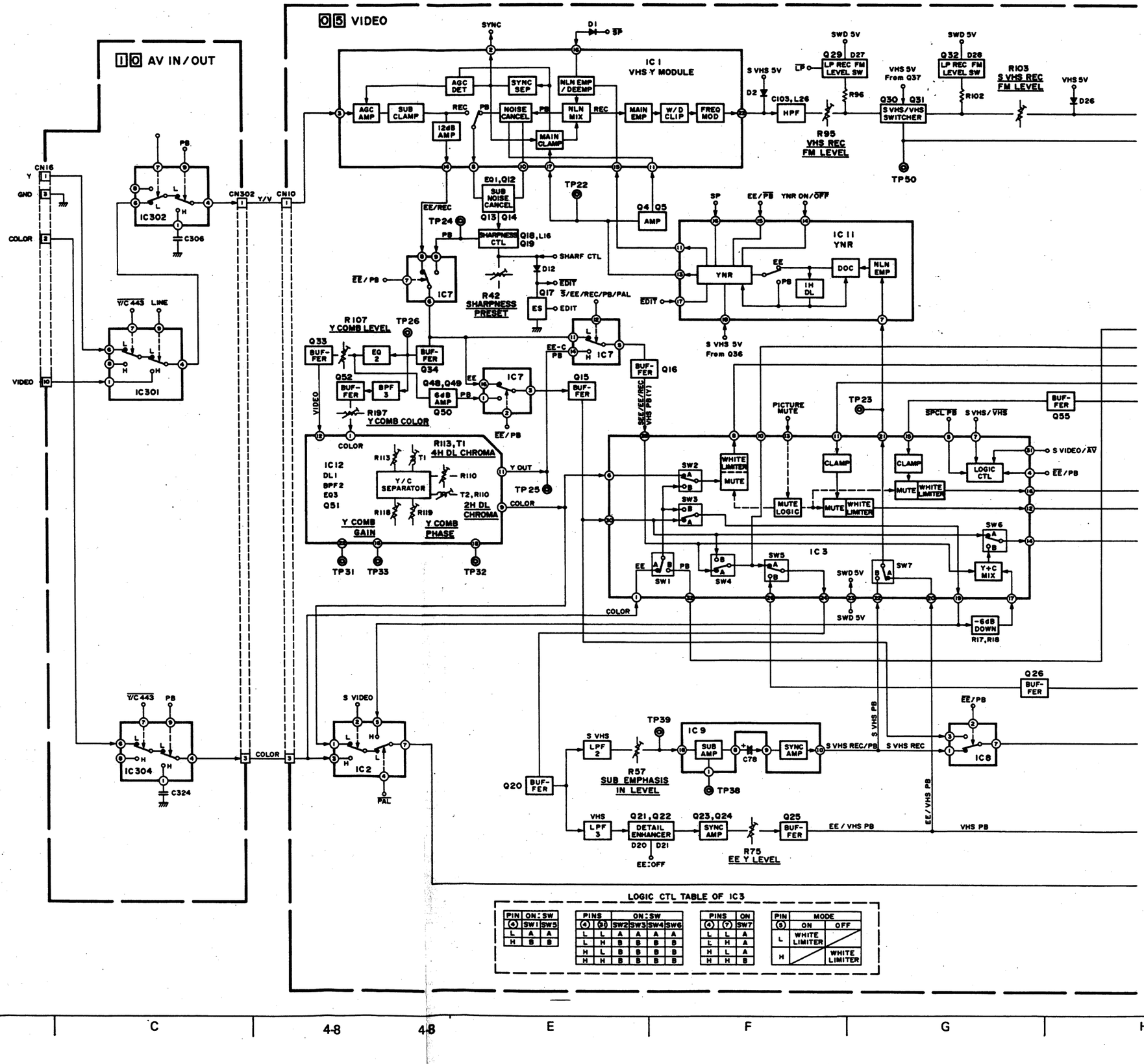


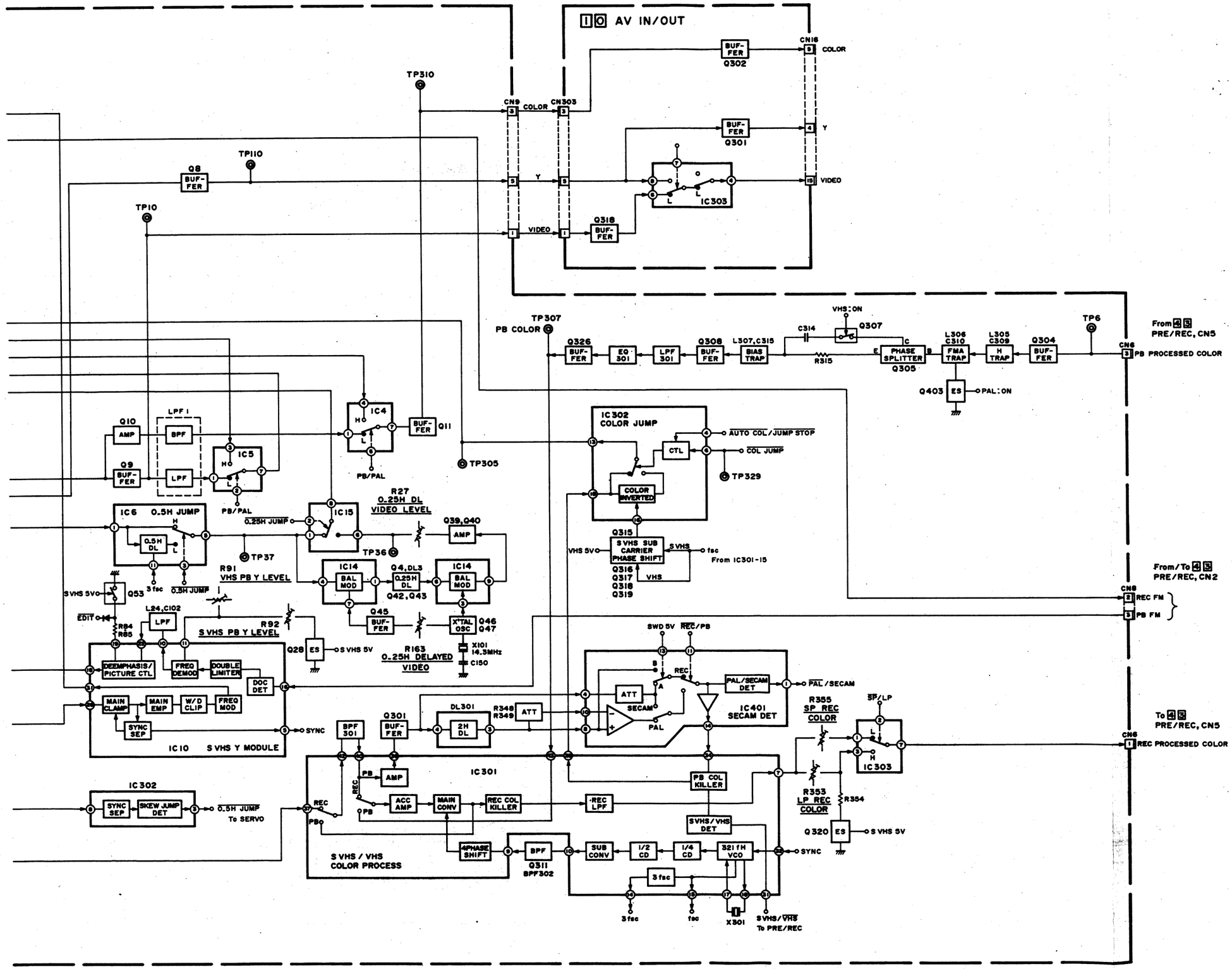
4-6

4.6 MECHACON BLOCK DIAGRAM



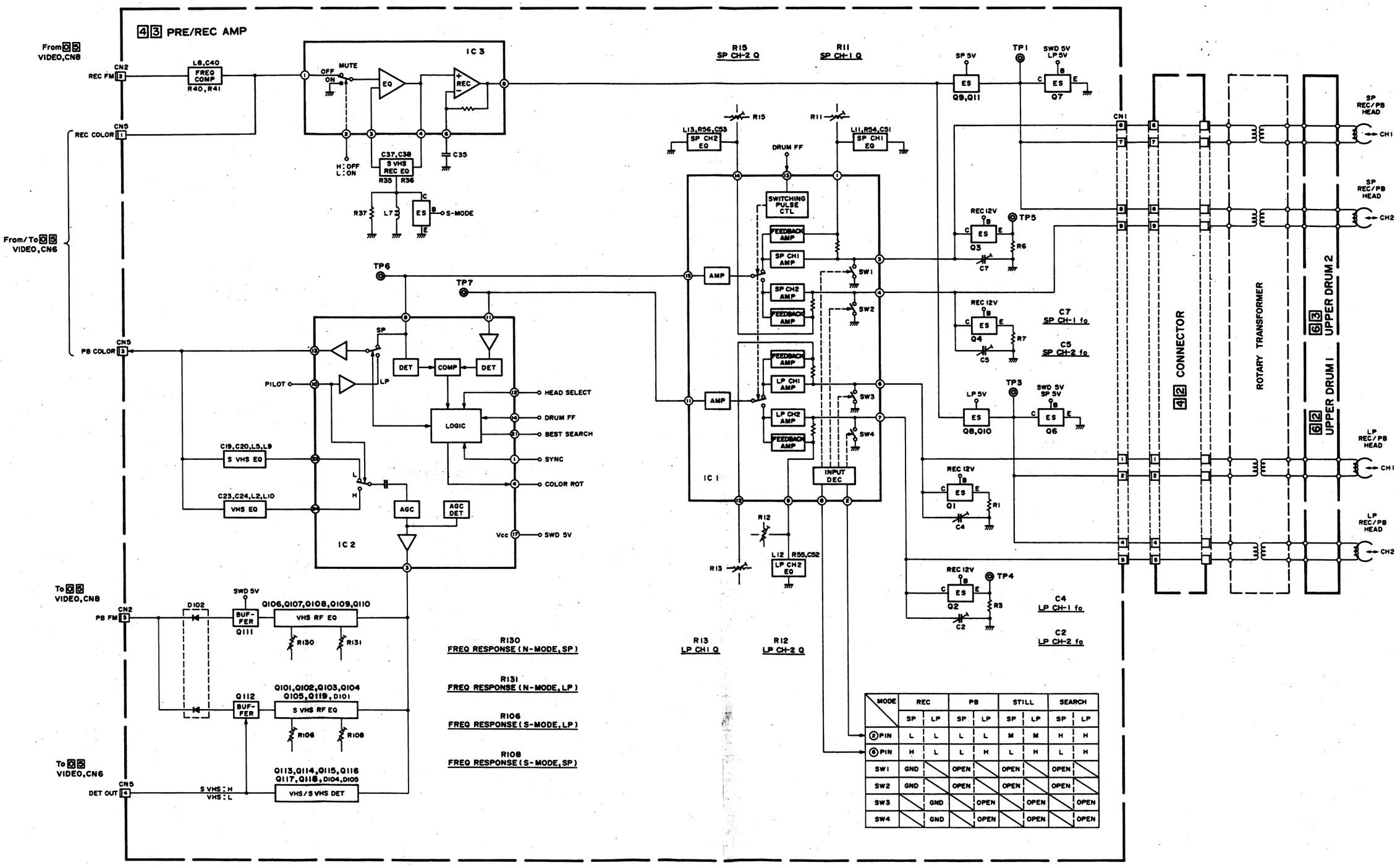
4.7 VIDEO BLOCK DIAGRAM





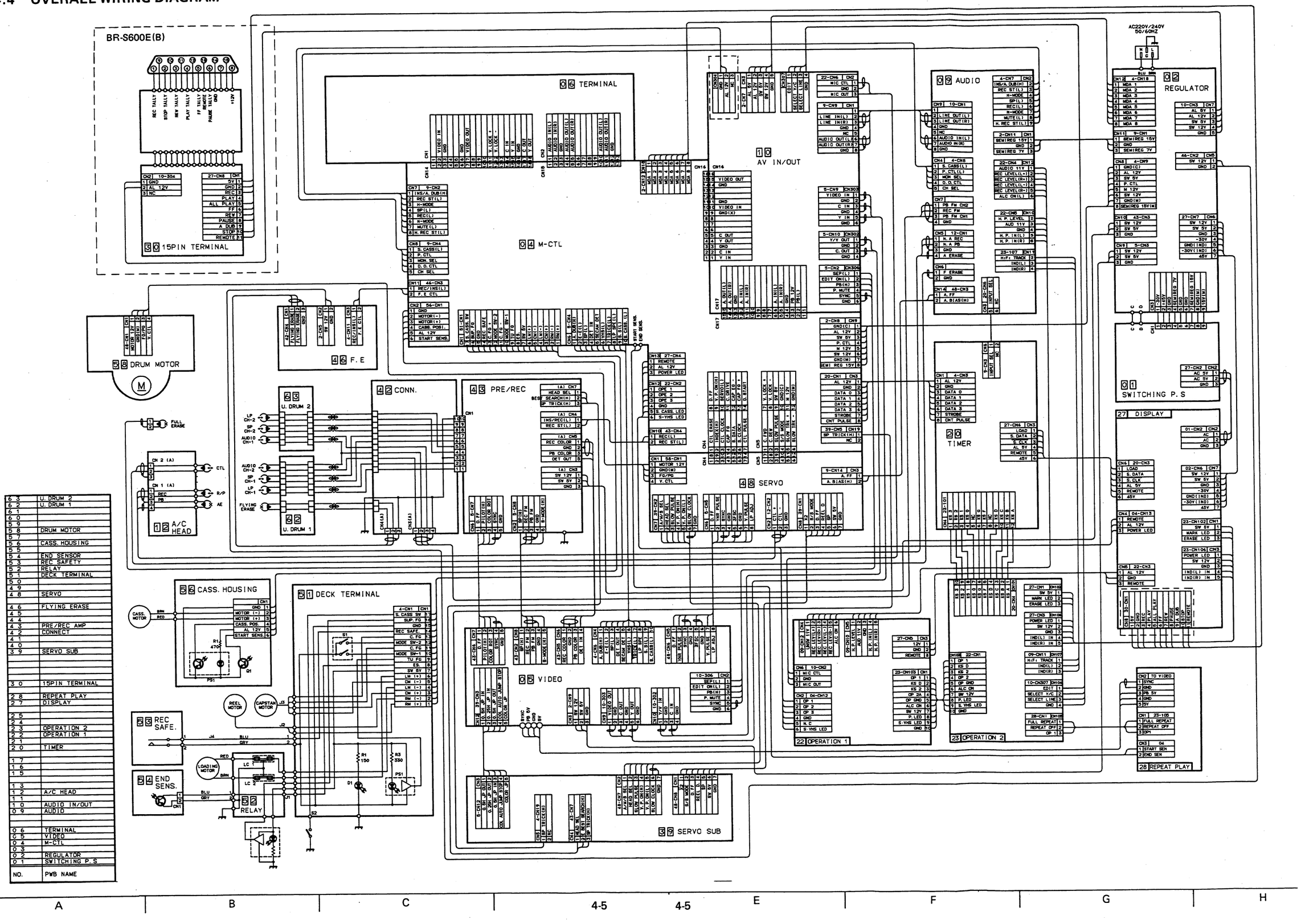
I J K L 4-9 4-9 N O P

4.8 PRE/REC AMP BLOCK DIAGRAM

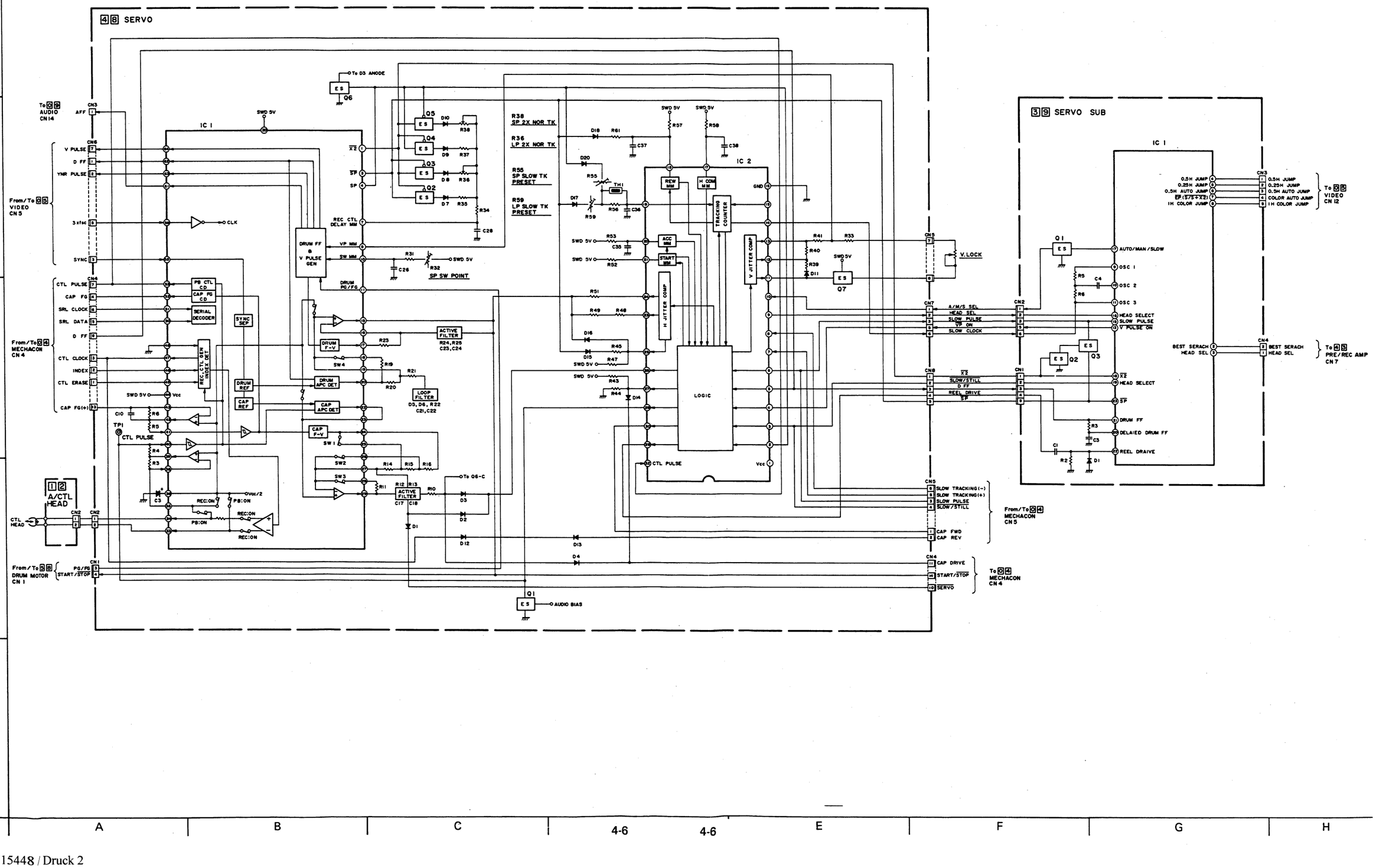


MODE	REC		PB		STILL		SEARCH	
	SP	LP	SP	LP	SP	LP	SP	LP
②PIN	L	L	L	L	M	M	H	H
⑤PIN	H	L	L	H	L	H	L	H
SW1	GND		OPEN		OPEN		OPEN	
SW2	GND		OPEN		OPEN		OPEN	
SW3		GND		OPEN		OPEN		OPEN
SW4		GND		OPEN		OPEN		OPEN

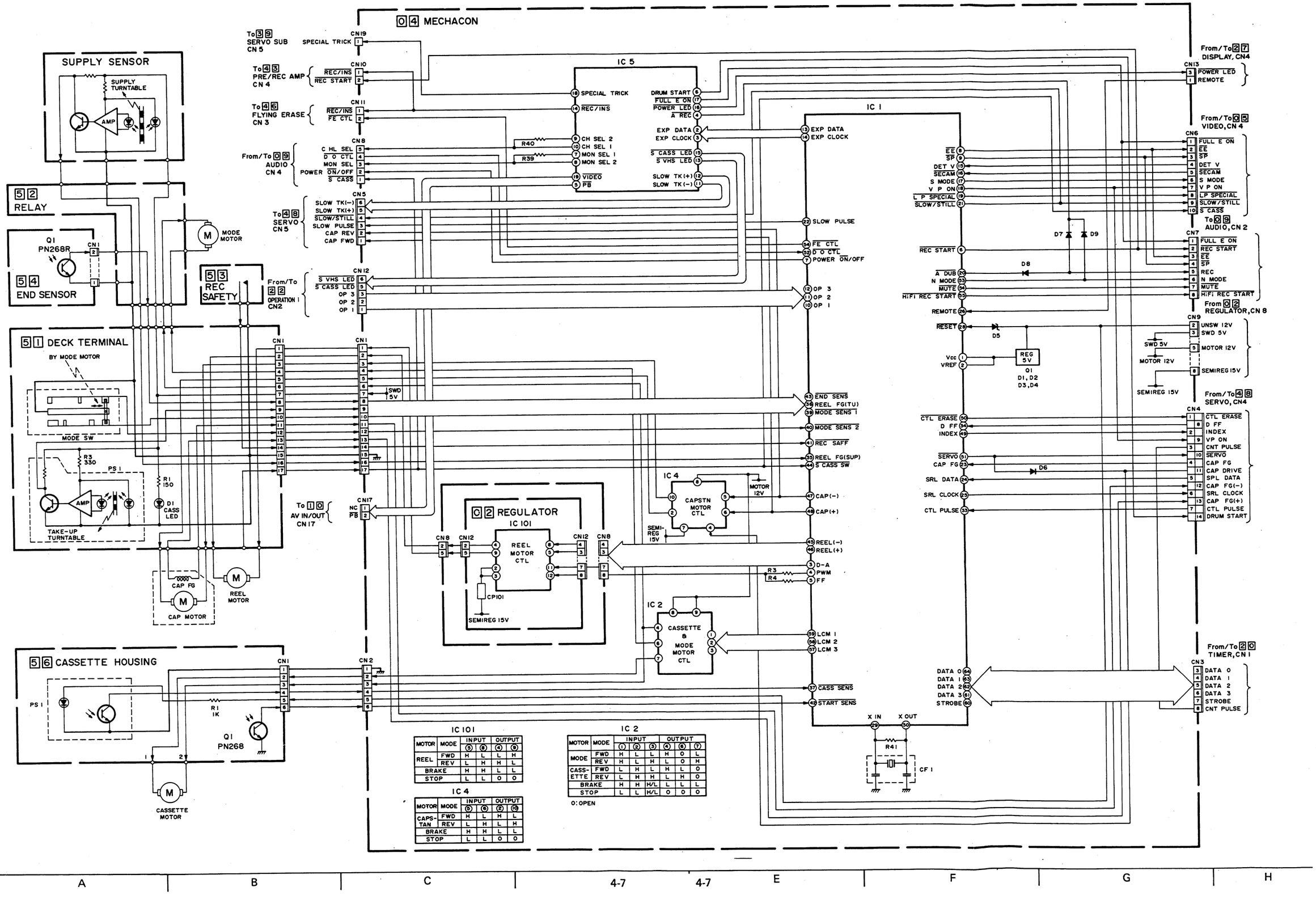
4.4 OVERALL WIRING DIAGRAM



4.5 SERVO BLOCK DIAGRAM



4.6 MECHACON BLOCK DIAGRAM



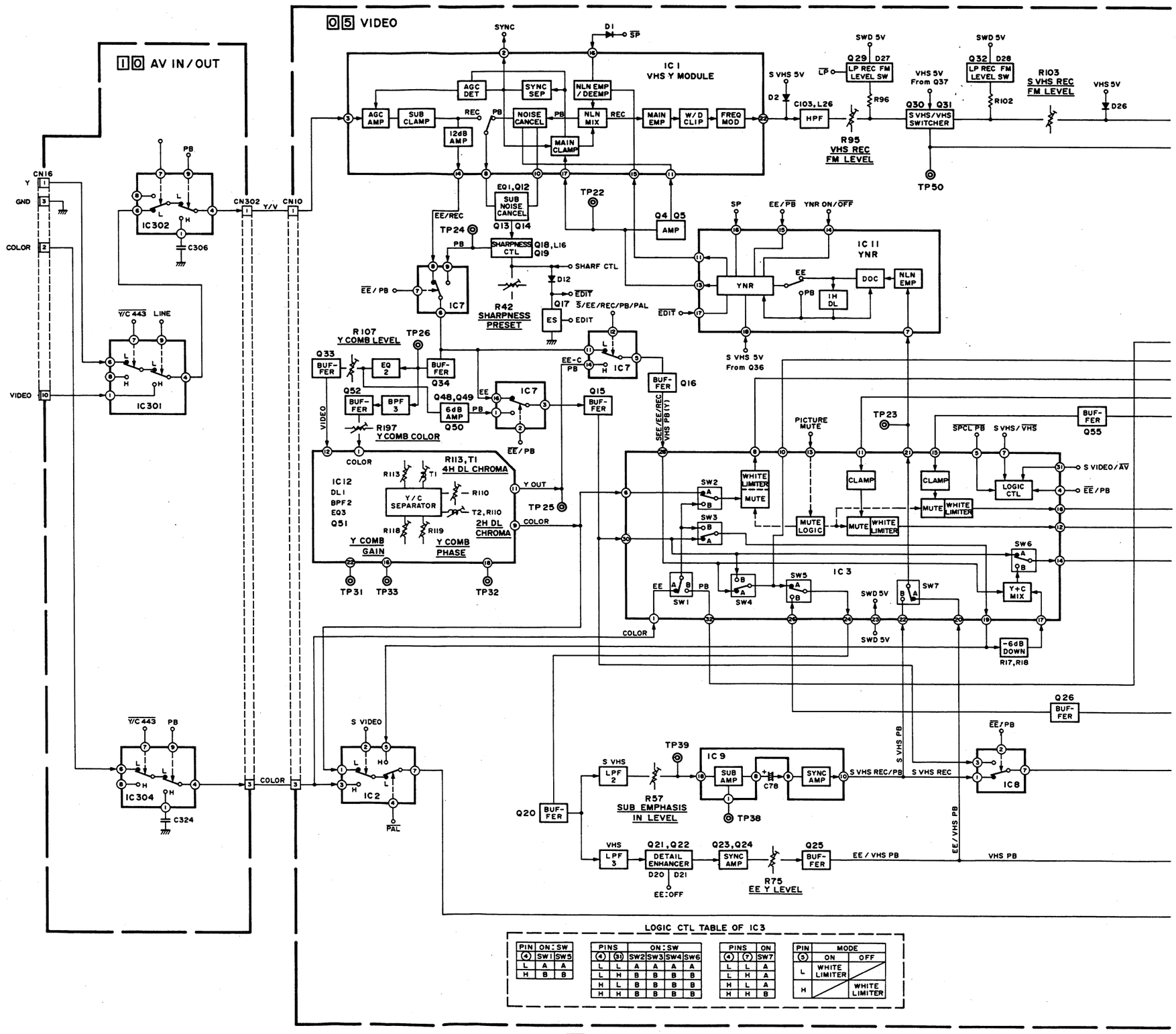
IC 101					
MOTOR	MODE	INPUT ⑤	INPUT ⑥	OUTPUT ④	OUTPUT ⑨
REEL	FWD	H	L	L	H
	REV	L	H	H	L
BRAKE		H	H	L	L
STOP		L	L	O	O

IC 4					
MOTOR	MODE	INPUT ⑤	INPUT ⑥	OUTPUT ②	OUTPUT ⑩
CAPS-TAN	FWD	H	L	H	L
	REV	L	H	L	H
BRAKE		H	H	L	L
STOP		L	L	O	O

IC 2							
MOTOR	MODE	INPUT ①	INPUT ②	INPUT ③	OUTPUT ④	OUTPUT ⑥	OUTPUT ⑦
MODE	FWD	H	L	L	H	O	L
	REV	H	L	H	L	O	H
CASS-ETTE	FWD	L	H	L	H	L	O
	REV	L	H	H	L	H	O
BRAKE		H	H	H/L	L	L	L
STOP		L	L	H/L	O	O	O

O: OPEN

4.7 VIDEO BLOCK DIAGRAM

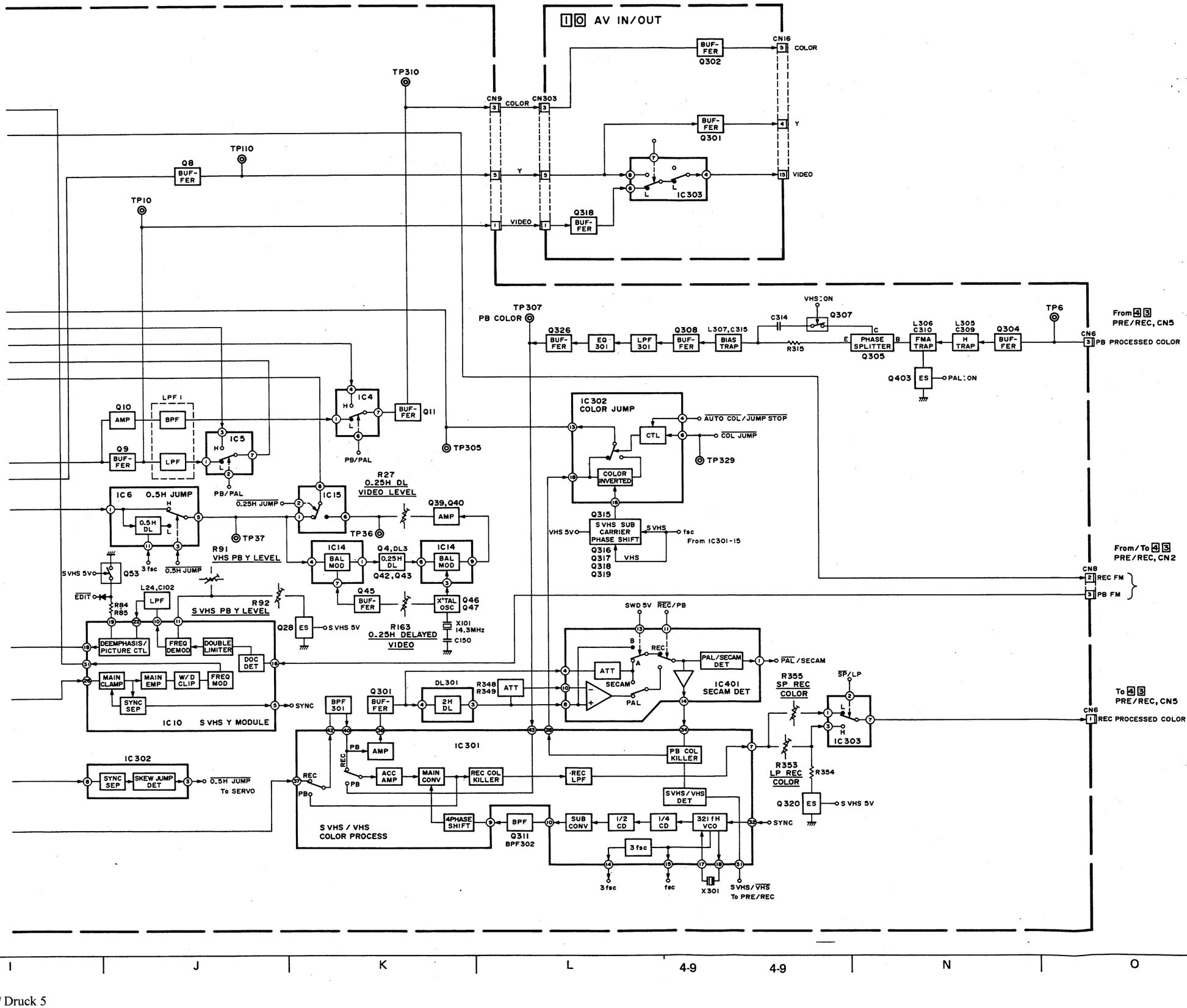


PIN ④	ON:SW SW1	SW5
L	A	A
H	B	B

PINS ④	㉛	ON:SW SW2	SW3	SW4	SW6
L	L	A	A	A	A
L	H	B	B	B	B
H	L	B	B	B	B
H	H	B	B	B	B

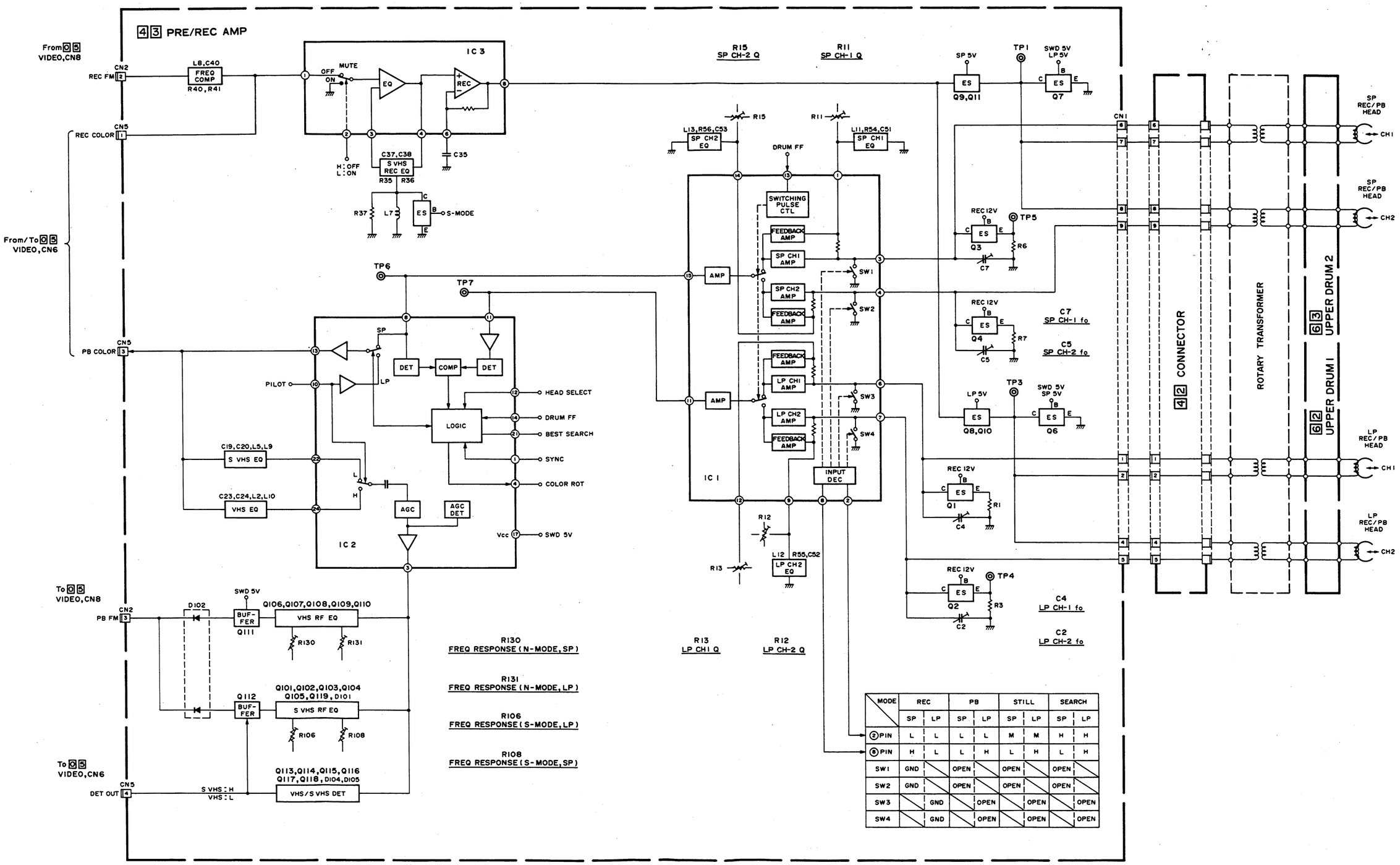
PINS ④	⑦	ON SW7
L	L	A
L	H	A
H	L	A
H	H	B

PIN ⑤	MODE ON	OFF
L	WHITE LIMITER	
H		WHITE LIMITER



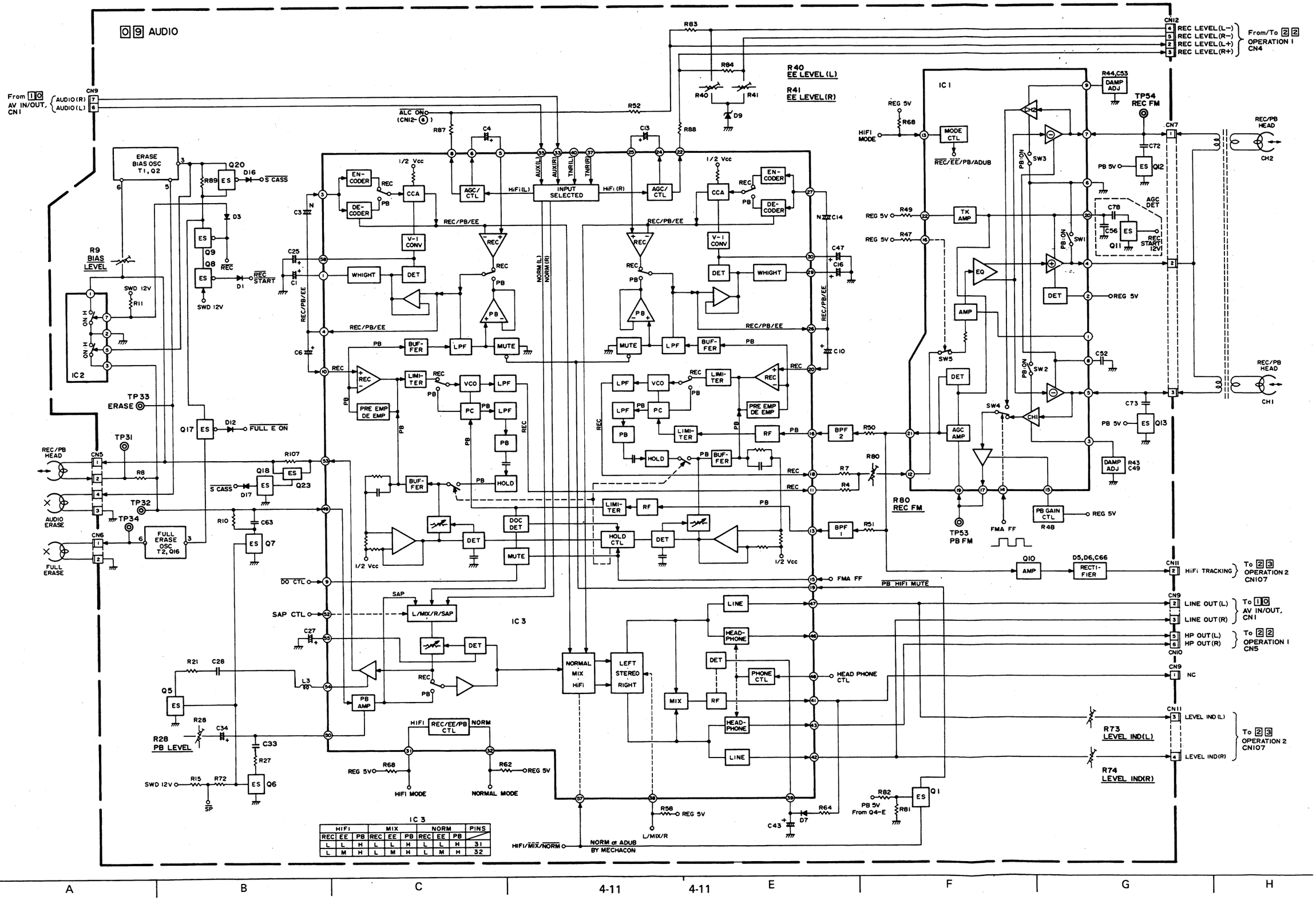
I J K L 4-9 4-9 N O P

4.8 PRE/REC AMP BLOCK DIAGRAM

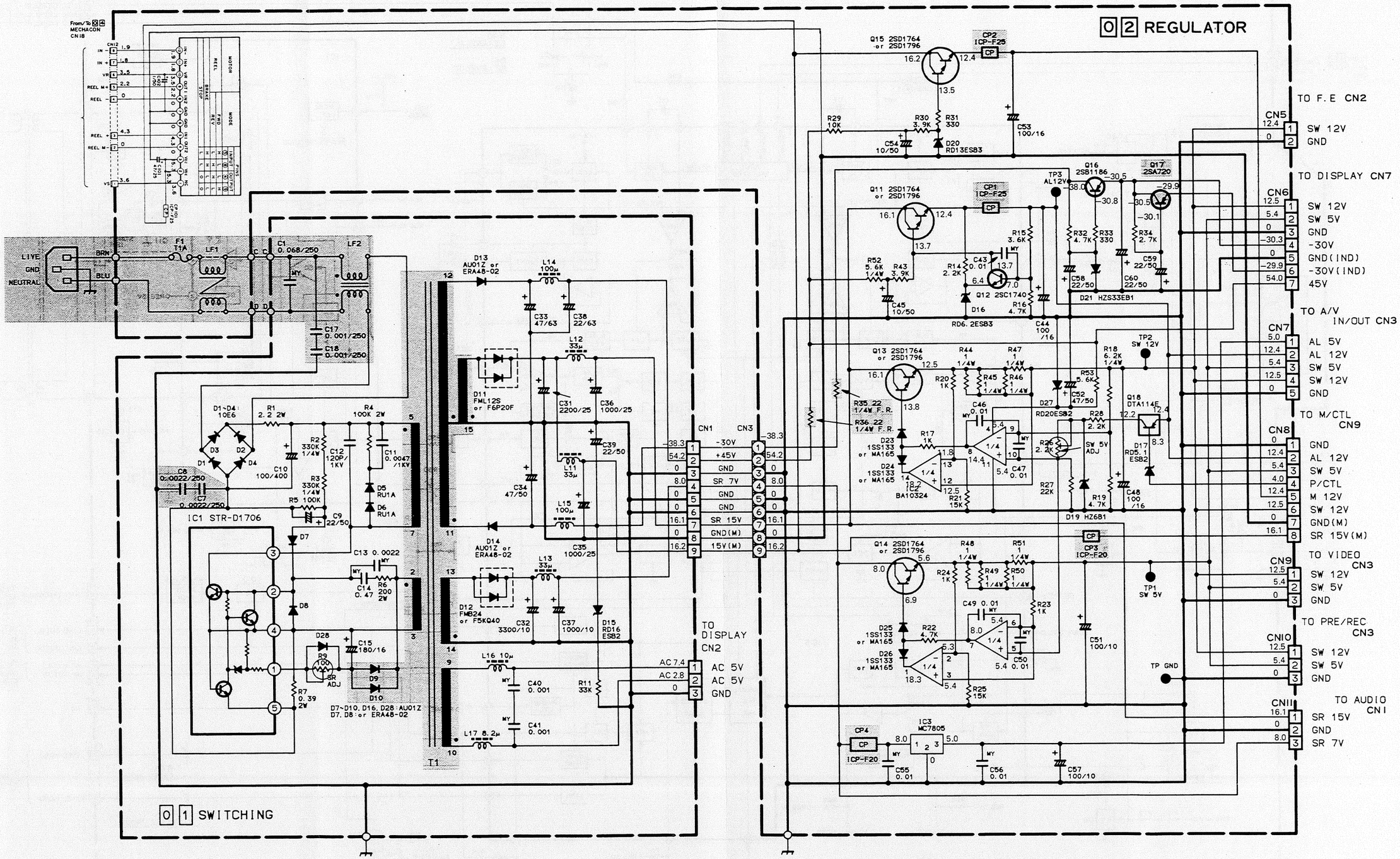


MODE	REC		PB		STILL		SEARCH	
	SP	LP	SP	LP	SP	LP	SP	LP
②PIN	L	L	L	L	M	M	H	H
⑧PIN	H	L	L	H	L	H	L	H
SW1	GND		OPEN		OPEN		OPEN	
SW2	GND		OPEN		OPEN		OPEN	
SW3		GND		OPEN		OPEN		OPEN
SW4		GND		OPEN		OPEN		OPEN

4.9 AUDIO BLOCK DIAGRAM

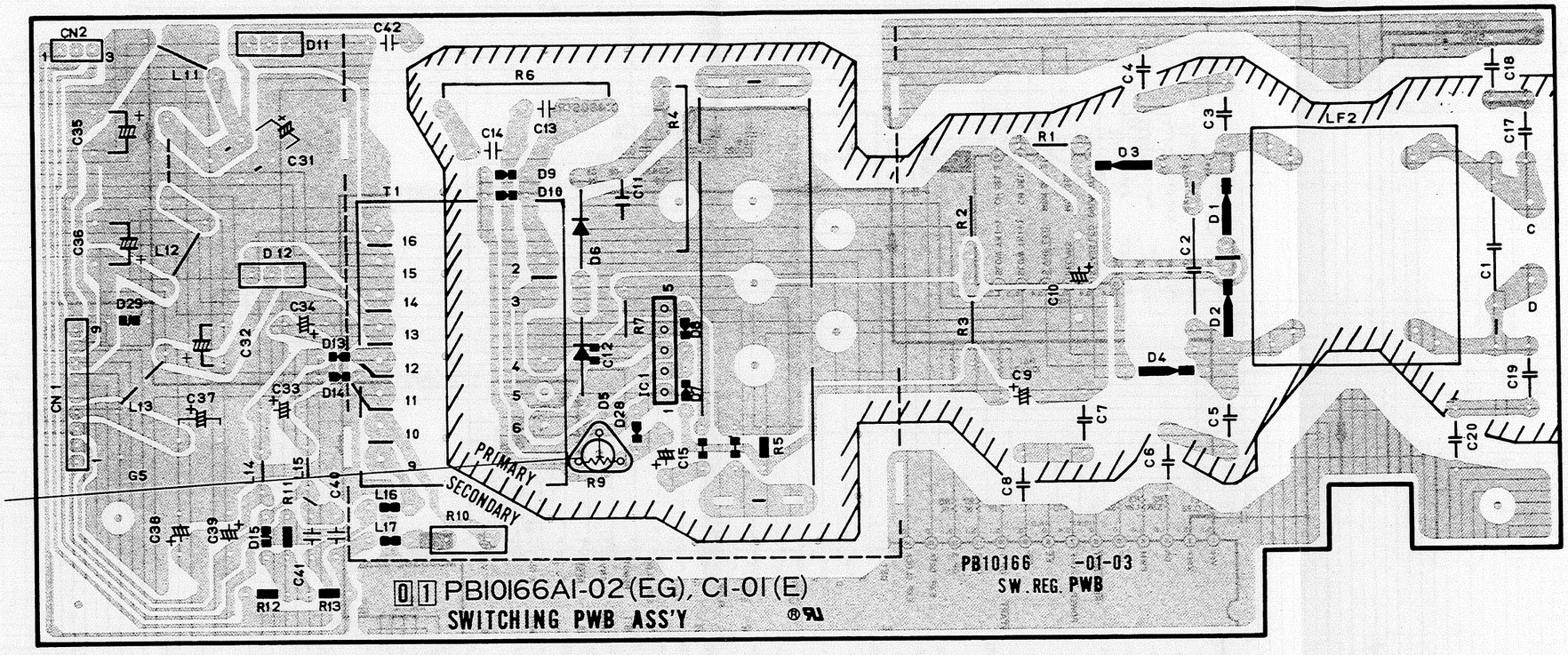


4.10 SWITCHING POWER SUPPLY AND REGULATOR SCHEMATIC DIAGRAMS

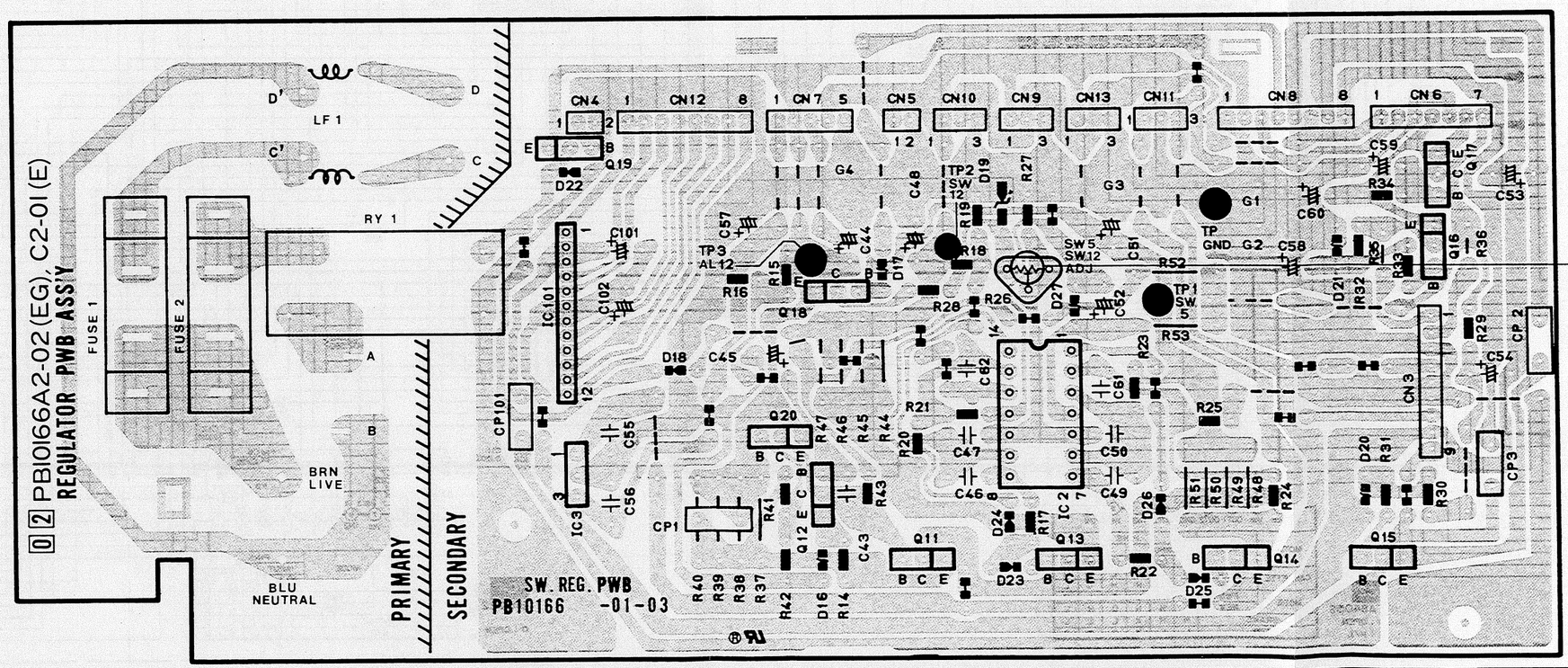


4.11 SWITCHING POWER SUPPLY AND REGULATOR CIRCUIT BOARDS

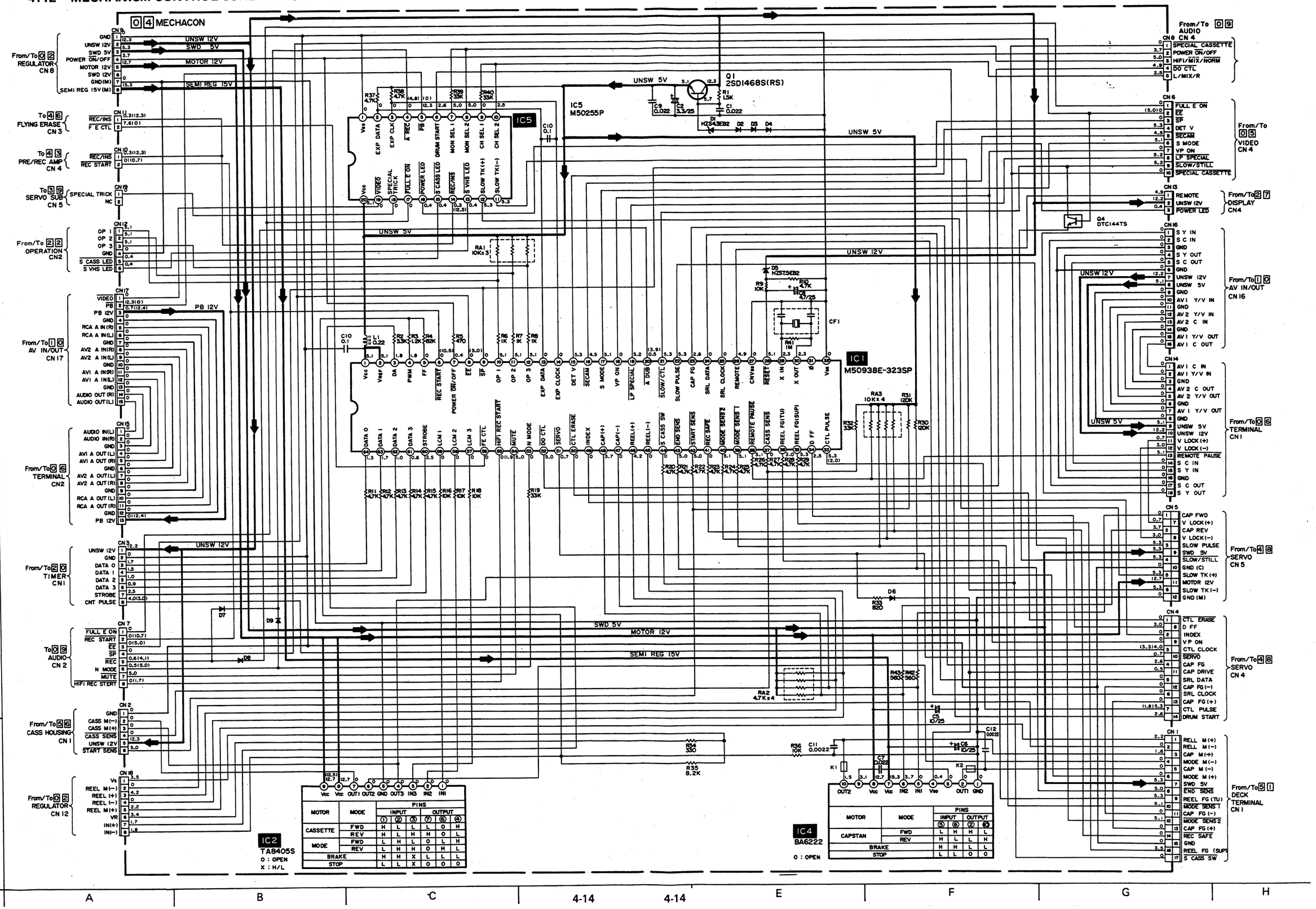
– SWITCHING –



– REGULATOR –



4.12 MECHANISM CONTROL SCHEMATIC DIAGRAM



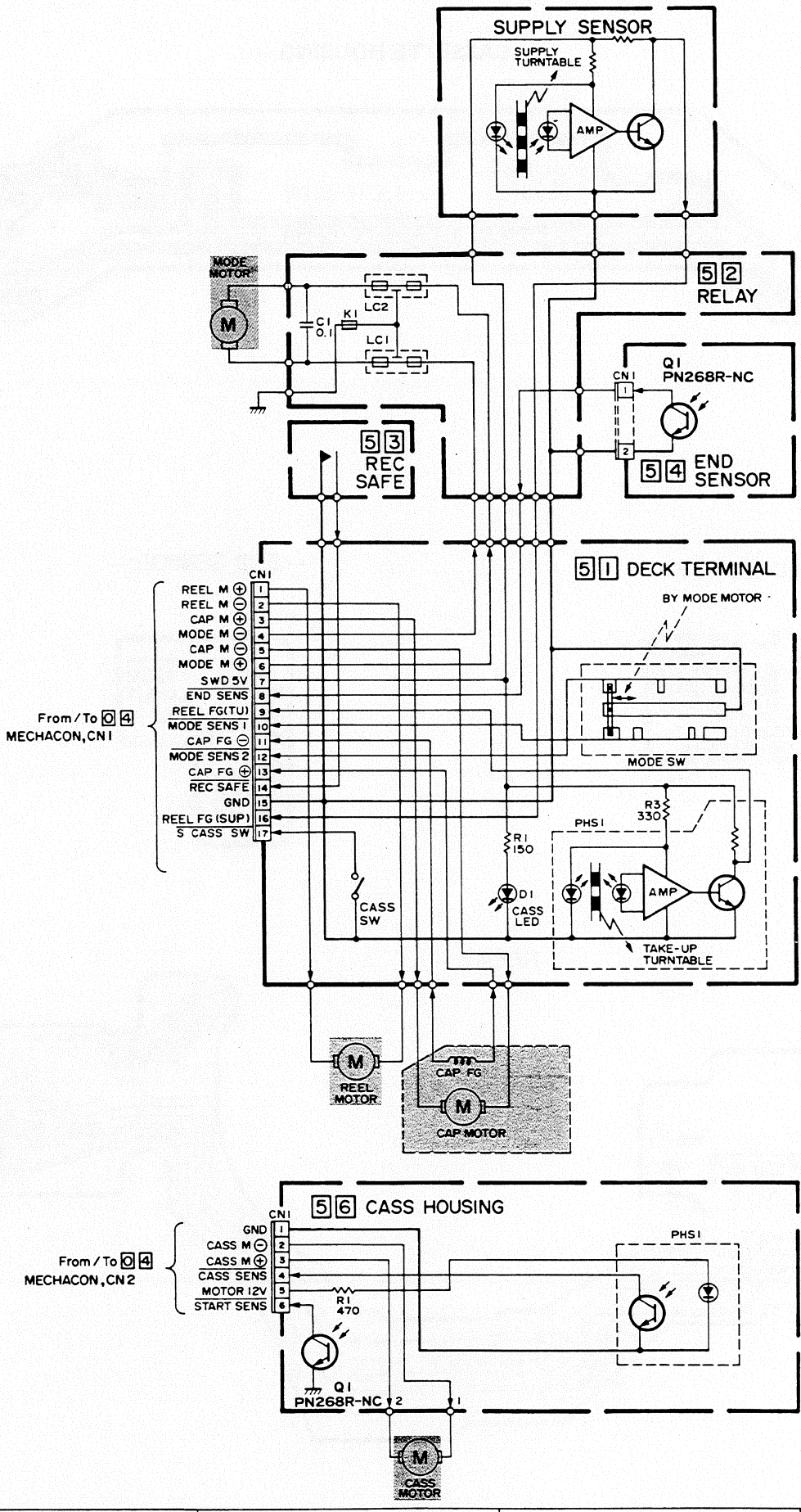
MOTOR	MODE	PINS					
		INPUT			OUTPUT		
		①	②	③	⑦	⑥	④
CASSETTE	FWD	H	L	L	L	O	H
	REV	H	L	H	H	O	L
MODE	FWD	L	H	L	O	L	H
	REV	L	H	H	O	H	L
BRAKE		H	H	X	L	L	L
STOP		L	L	X	O	O	O

O : OPEN
X : H/L

MOTOR	MODE	PINS			
		INPUT		OUTPUT	
		⑤	⑥	②	④
CAPSTAN	FWD	L	H	H	L
	REV	H	L	L	H
BRAKE		H	H	L	L
STOP		L	L	O	O

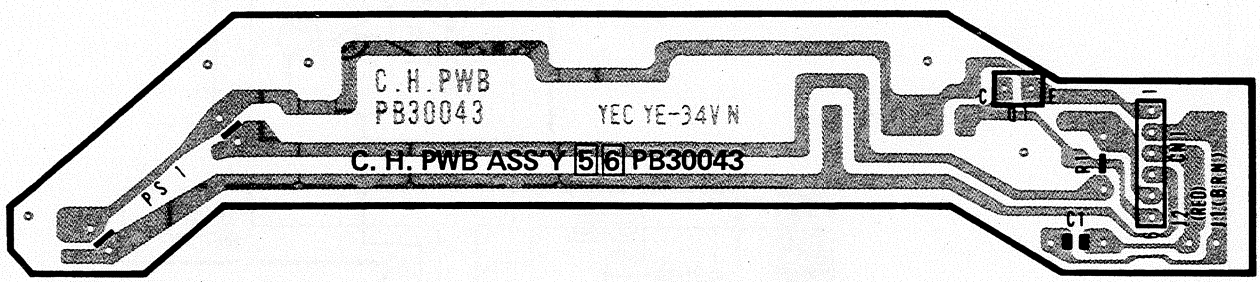
O : OPEN

4.13 DECK TERMINAL, CASSETTE HOUSING, RELAY, END SENSOR AND REC SAFETY SCHEMATIC DIAGRAMS

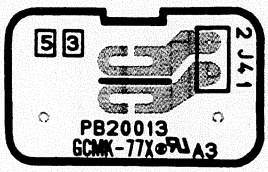


4.14 DECK TERMINAL, CASSETTE HOUSING, RELAY, END SENSOR AND REC SAFETY CIRCUIT BOARDS

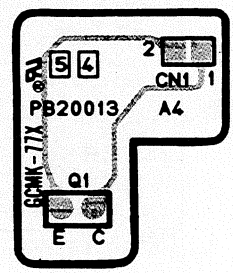
— CASSETTE HOUSING —



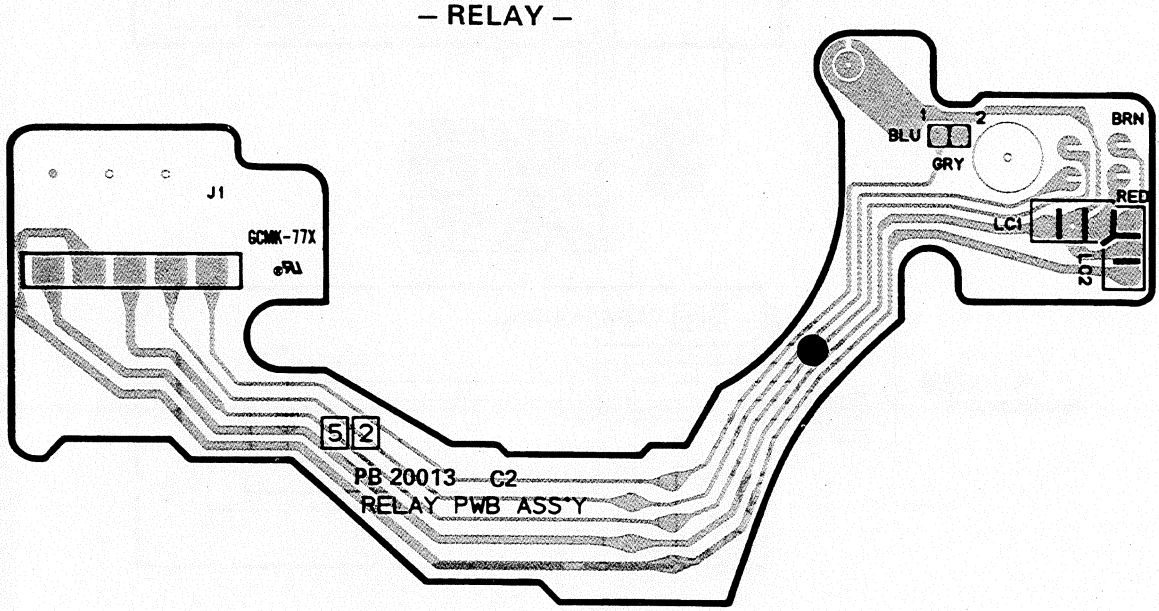
— REC SAFETY —



— END SENSOR —

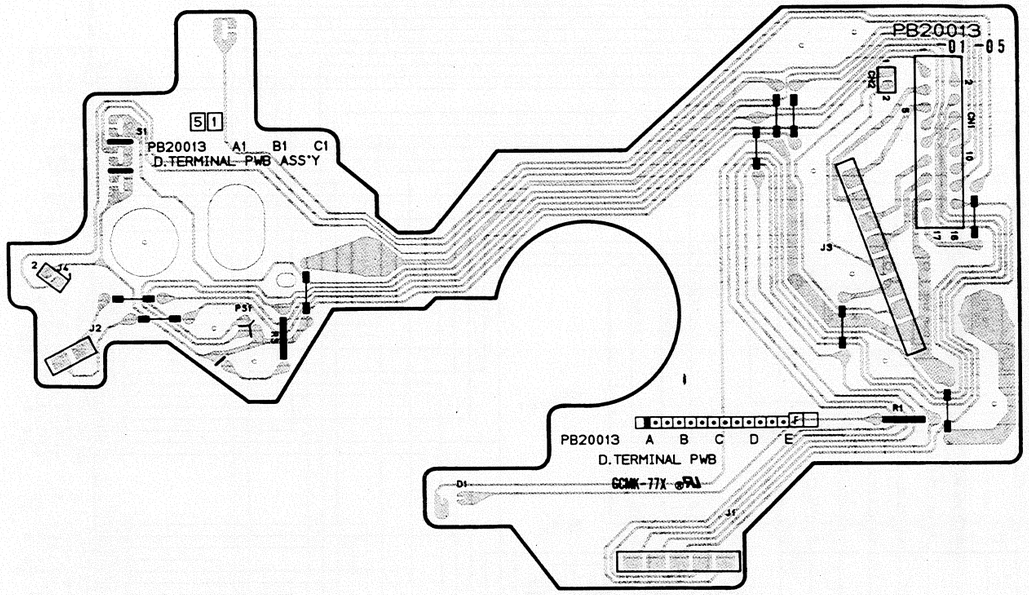


— RELAY —

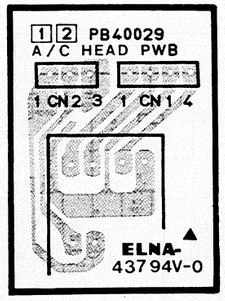


4.15 MECHANISM CONTROL AND AUDIO/CONTROL HEAD CIRCUIT BOARDS

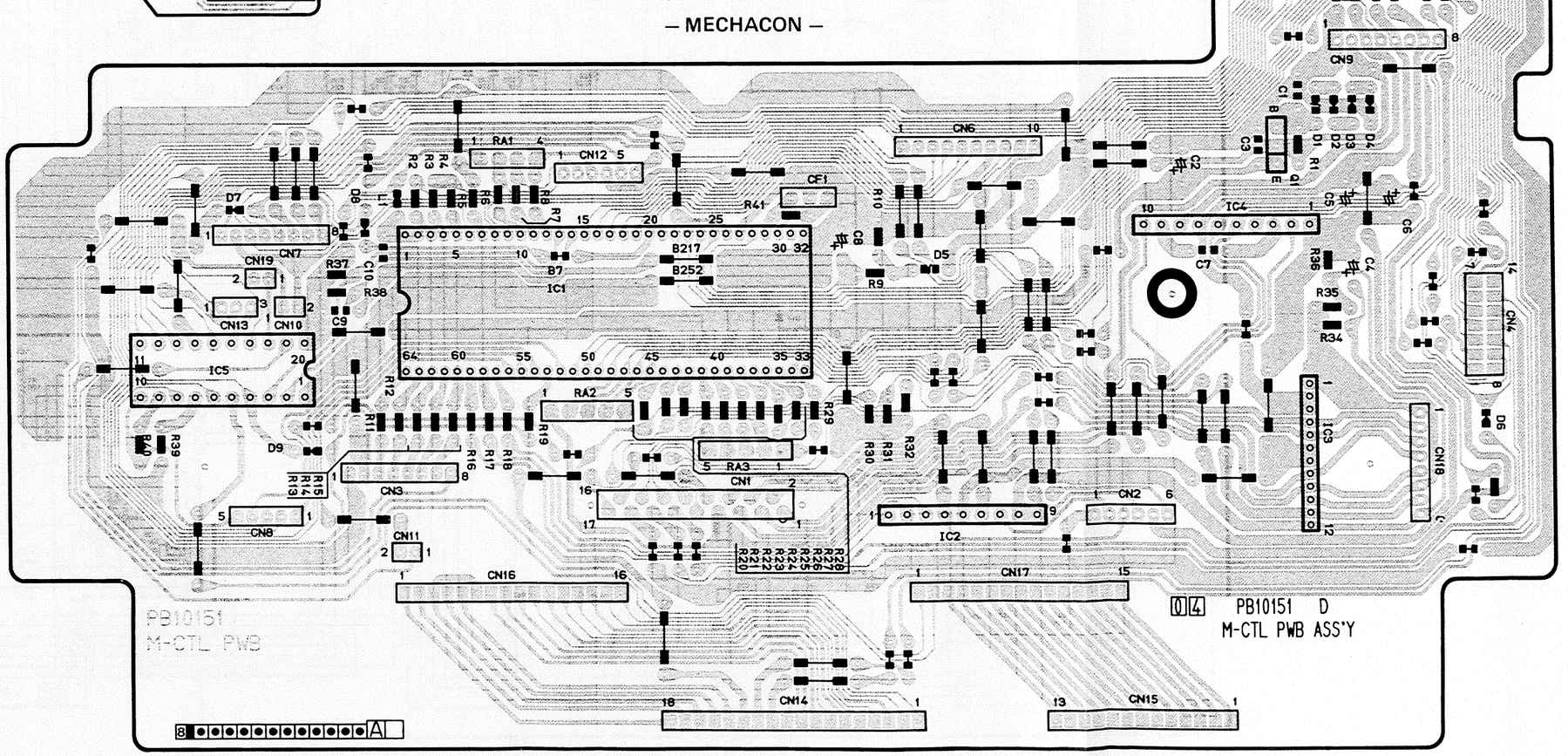
– DECK TERMINAL –



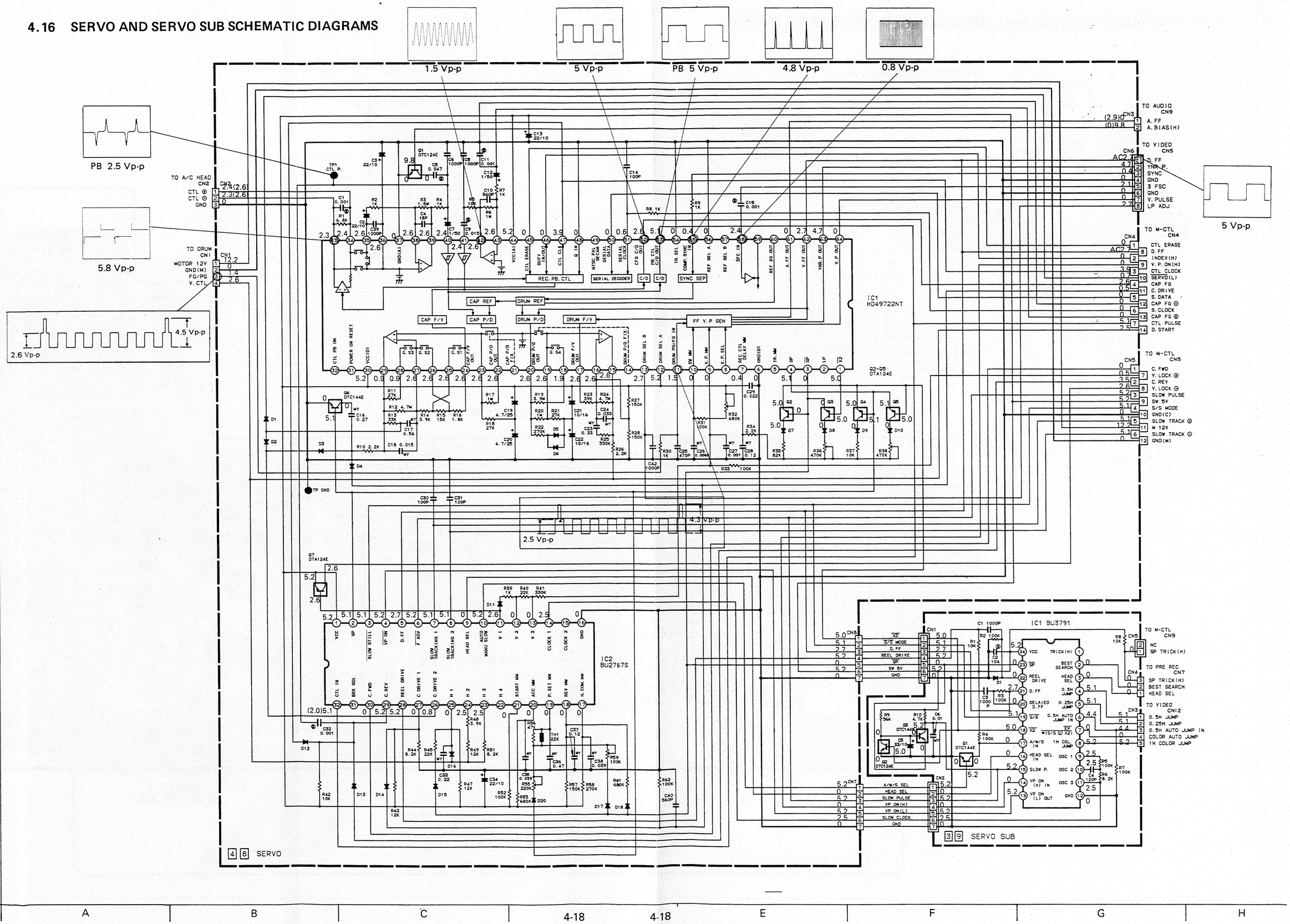
– A/C HEAD –



– MECHACON –

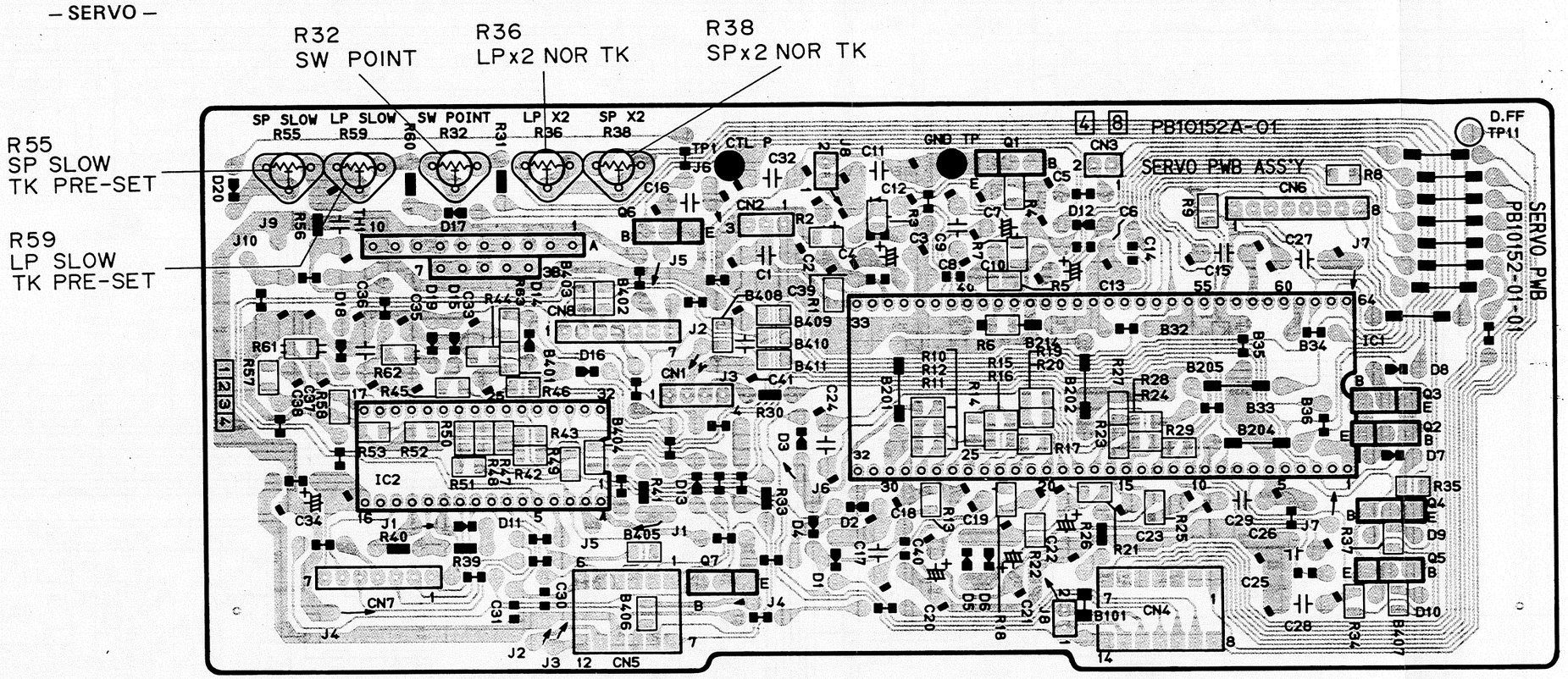


4.16 SERVO AND SERVO SUB SCHEMATIC DIAGRAMS

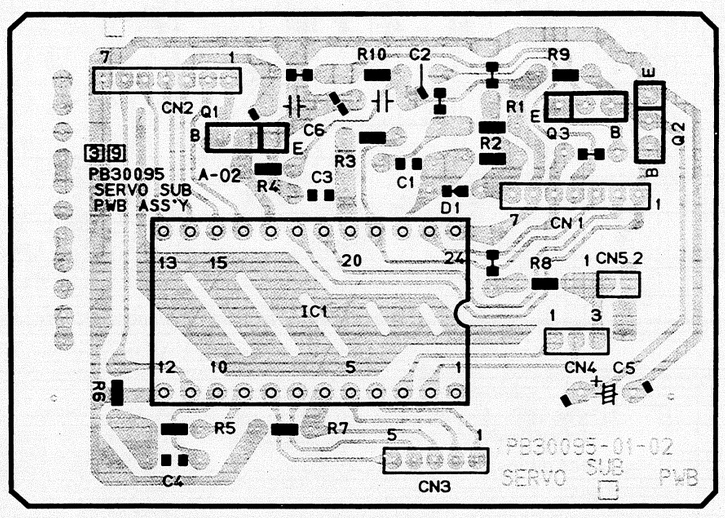


4.17 SERVO AND SERVO SUB CIRCUIT BOARDS

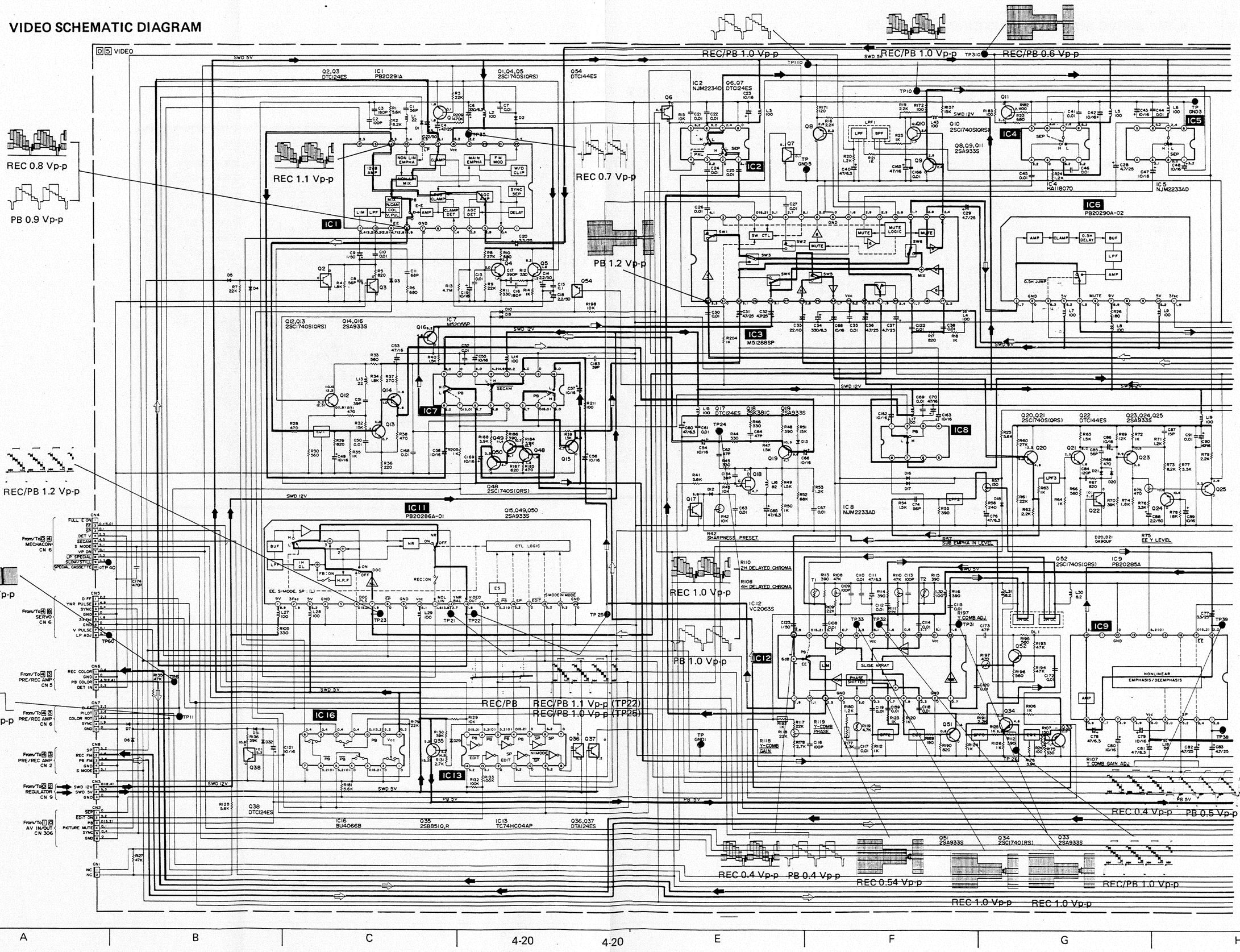
– SERVO –



– SERVO SUB –



4.18 VIDEO SCHEMATIC DIAGRAM

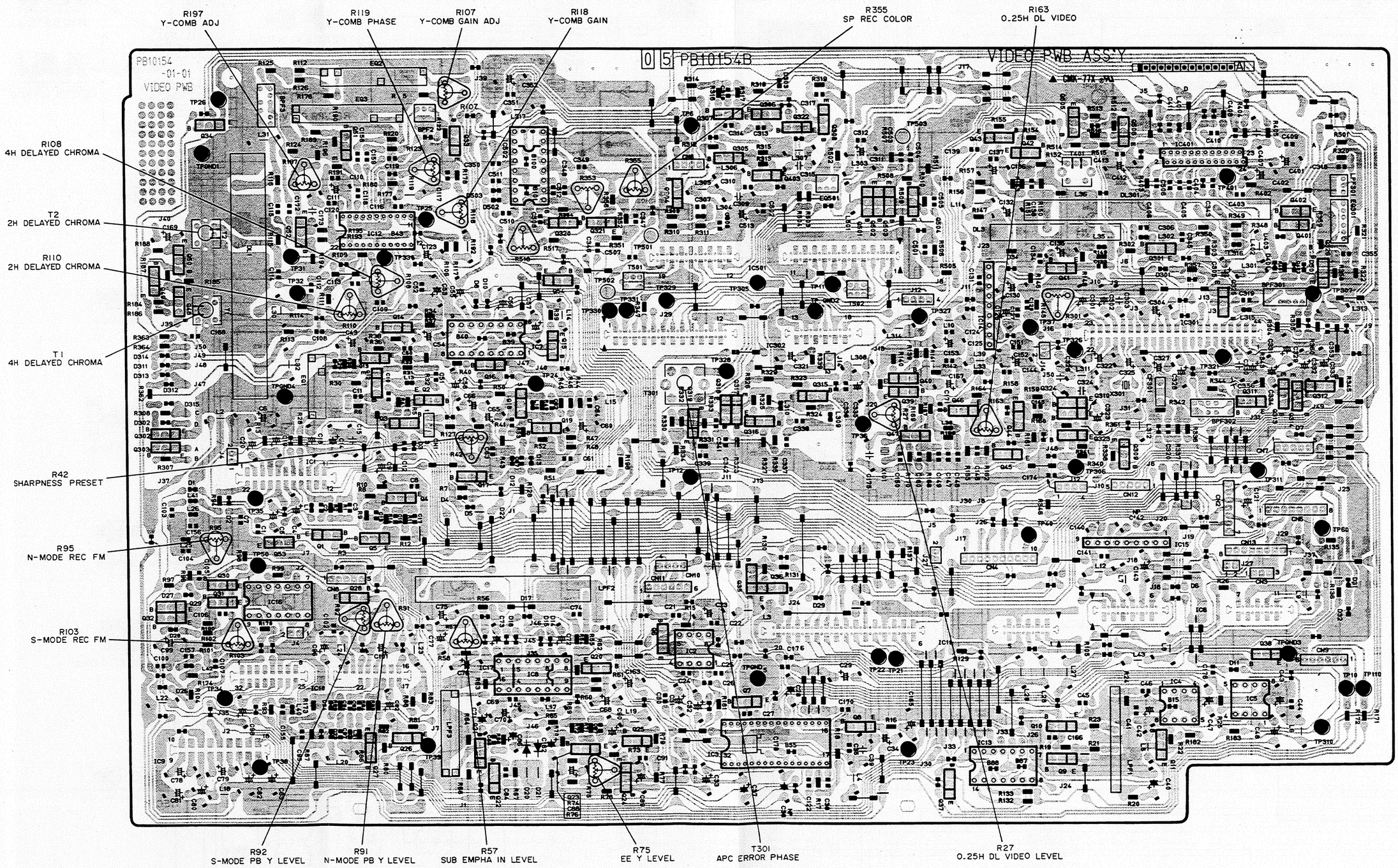


IC14
IC15
IC302
IC301
IC401
IC303
IC10

REC 0.55 Vp-p
PB 0.7 Vp-p
PB 0.45 Vp-p
REC/PB 1.0 Vp-p
REC/PB 4.5 Vp-p
REC/PB 40 m Vp-p
REC/PB 0.3 Vp-p
REC/PB 2.5 Vp-p
PB 0.15 Vp-p
REC 0.9 Vp-p
REC/PB 1.0 Vp-p
PB 50 mVp-p
REC 1.1 Vp-p
REC 0.4 Vp-p
PB 0.23 Vp-p
REC 0.2 Vp-p
PB 0.35 Vp-p
REC/PB 0.34 Vp-p
PB 0.5 Vp-p
REC 0.25 Vp-p
PB 0.18 Vp-p
REC/PB 0.9 Vp-p
REC/PB 5 Vpp
REC/PB 0.1 Vp-p
REC 0.23 Vp-p

I	J	K	L	4-21	4-21	N	O	P

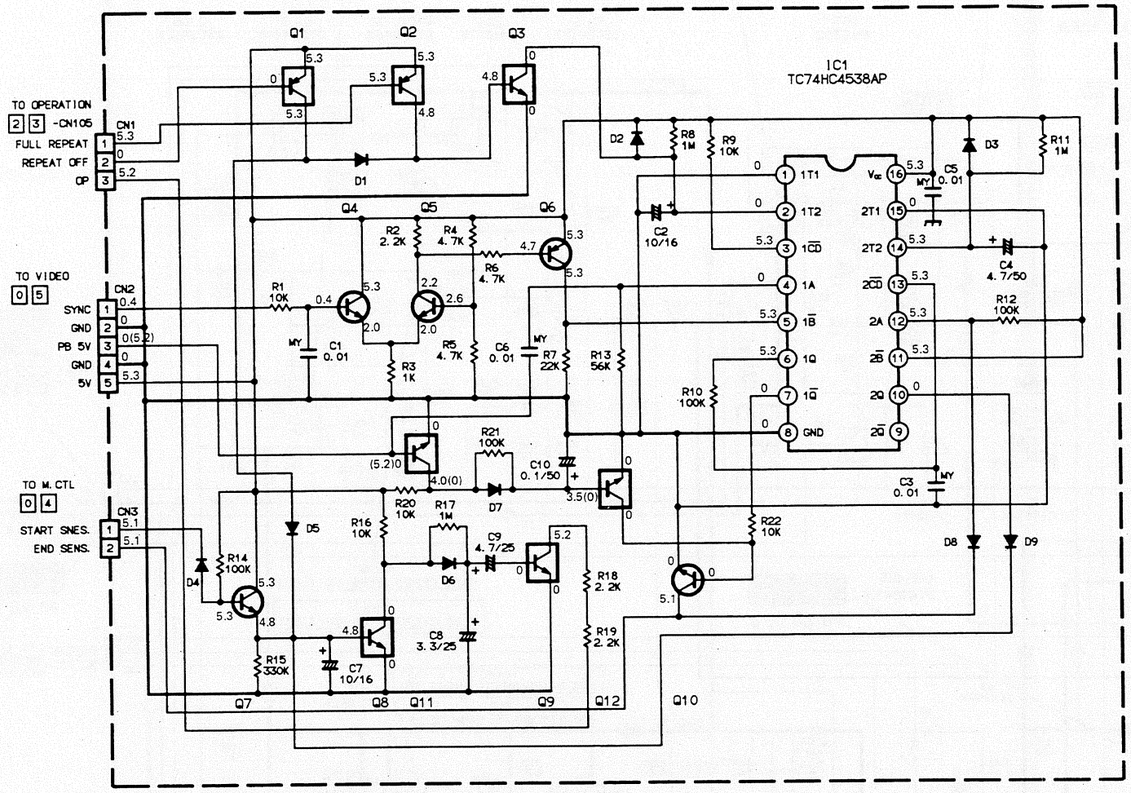
4.19 VIDEO CIRCUIT BOARD



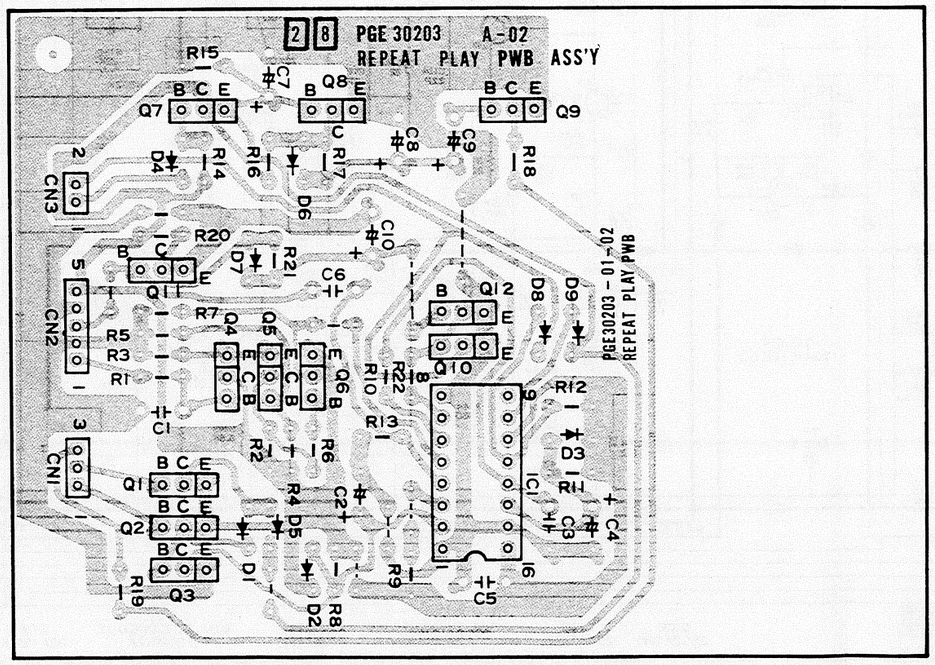
VIDE-V15448 / Druck 16

4.20 REPEAT PLAY SCHEMATIC DIAGRAM AND CIRCUIT BOARD

– SCHEMATIC DIAGRAM –

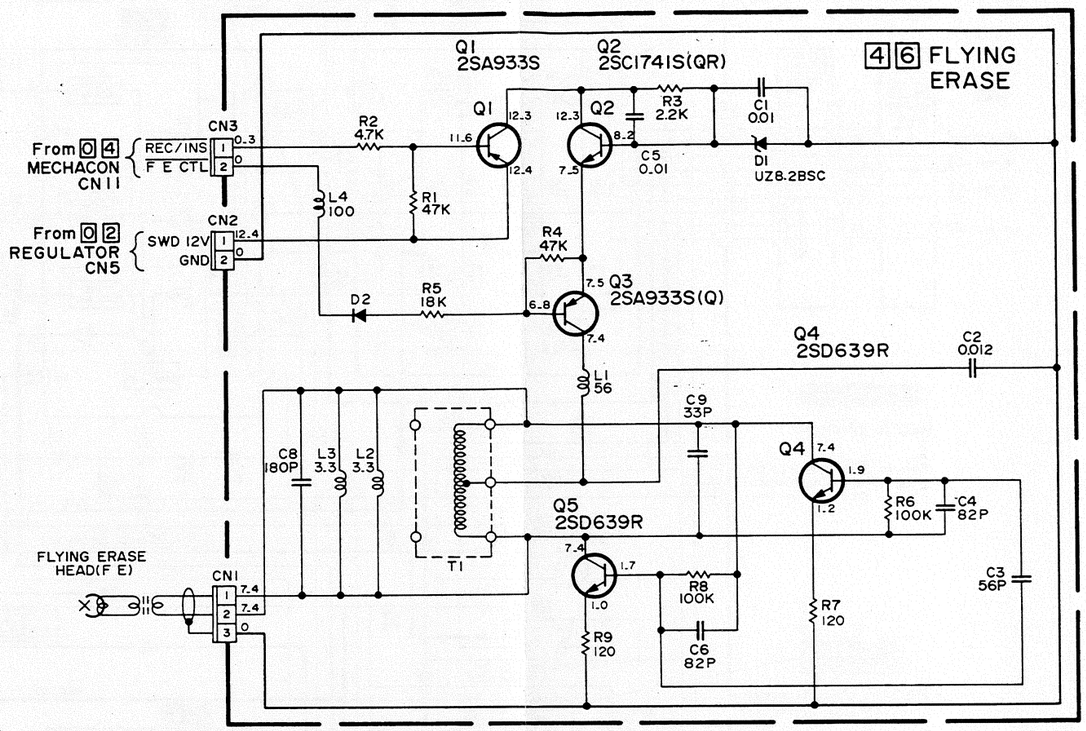


– CIRCUIT BOARD –

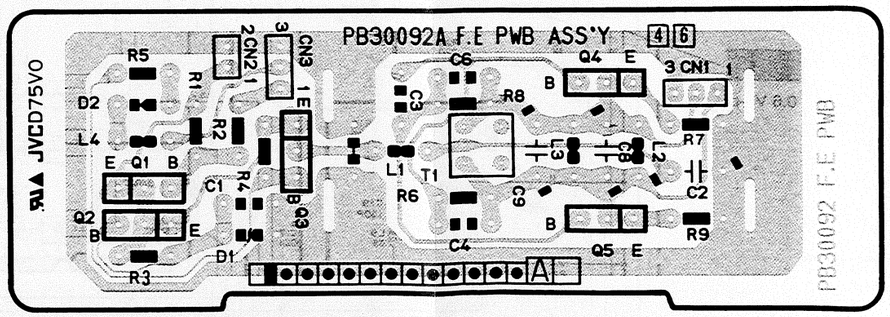


4.21 FLYING ERASE SCHEMATIC DIAGRAM AND CIRCUIT BOARD

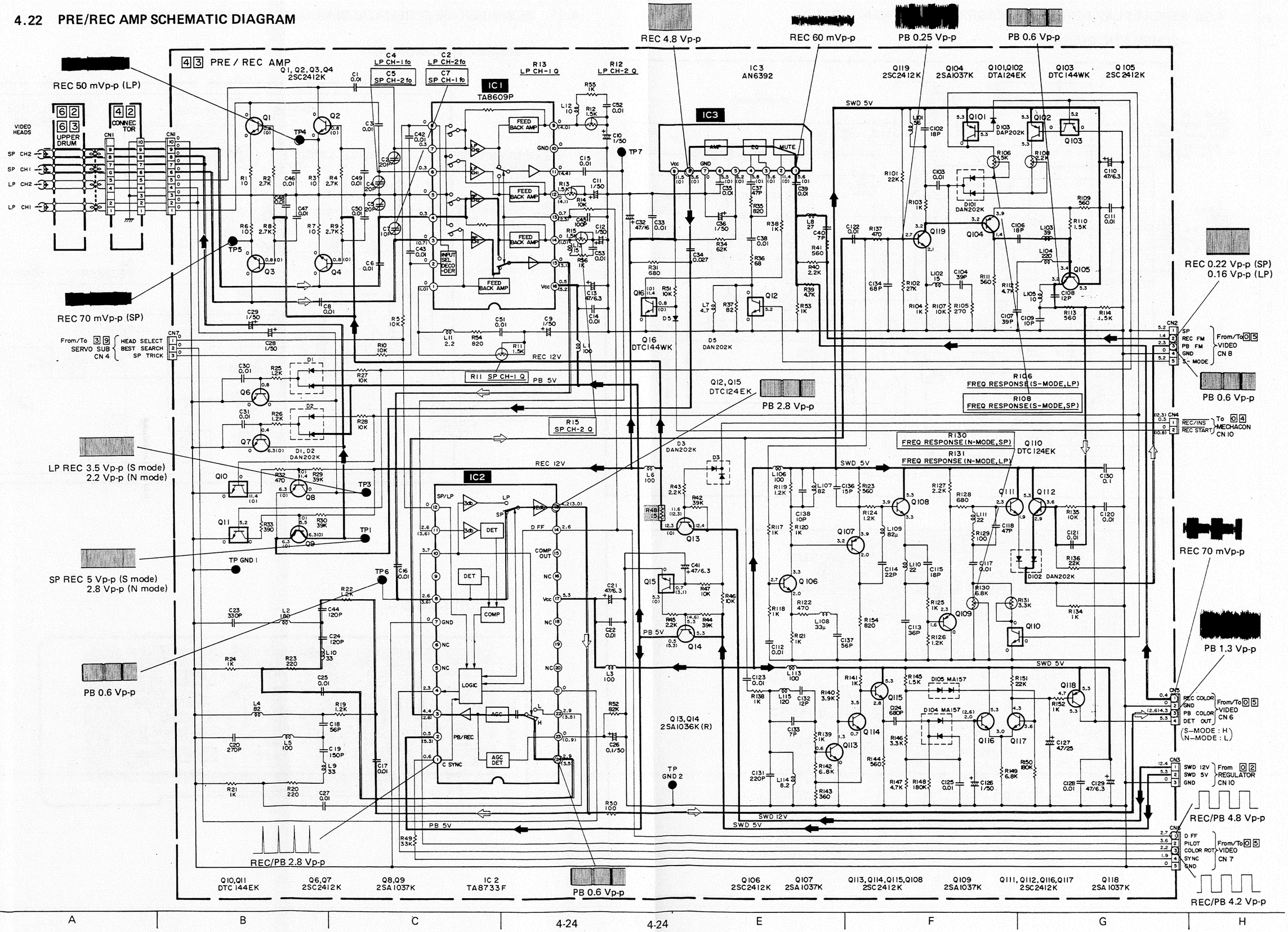
– SCHEMATIC DIAGRAM –



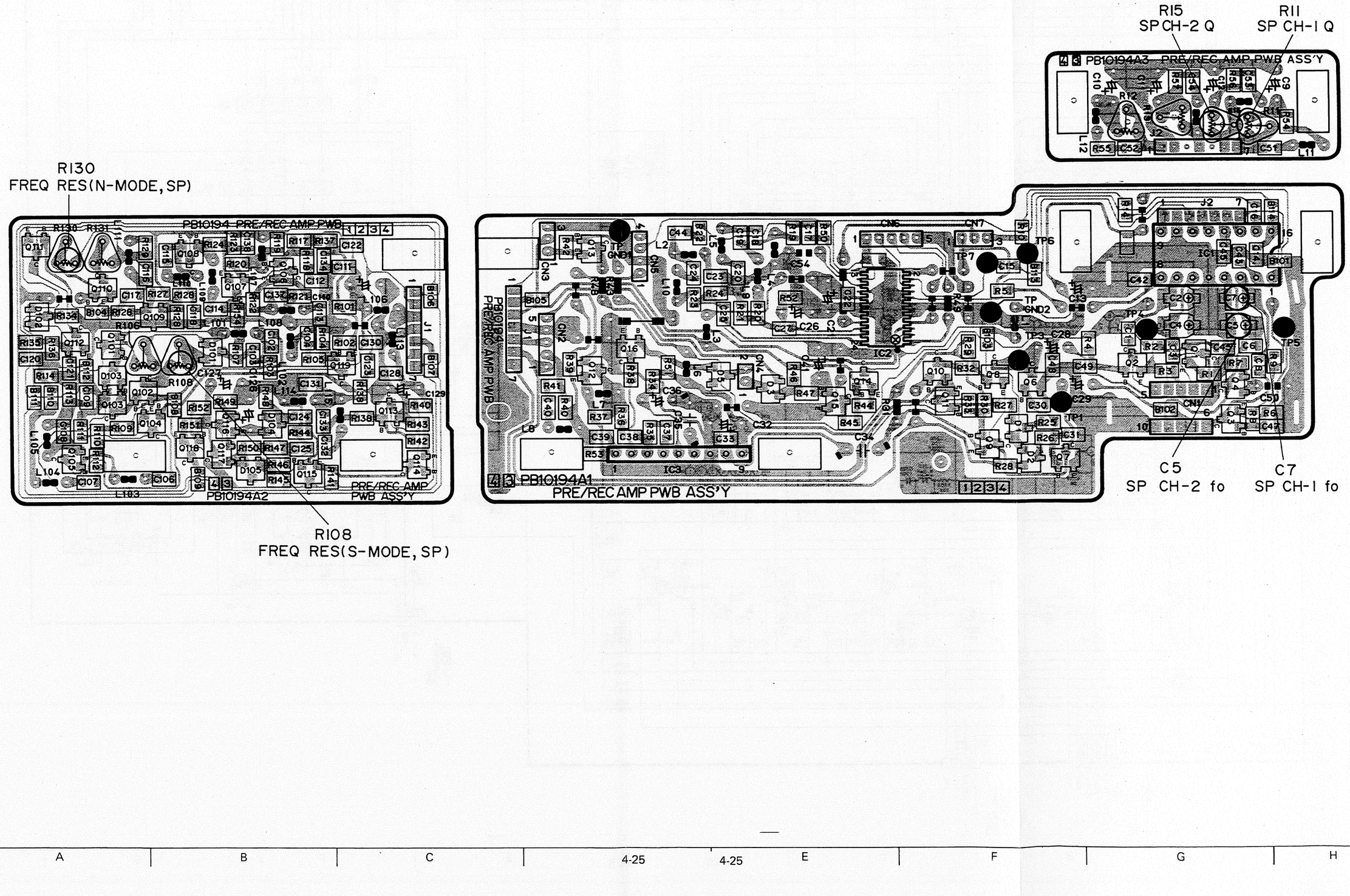
– CIRCUIT BOARD –



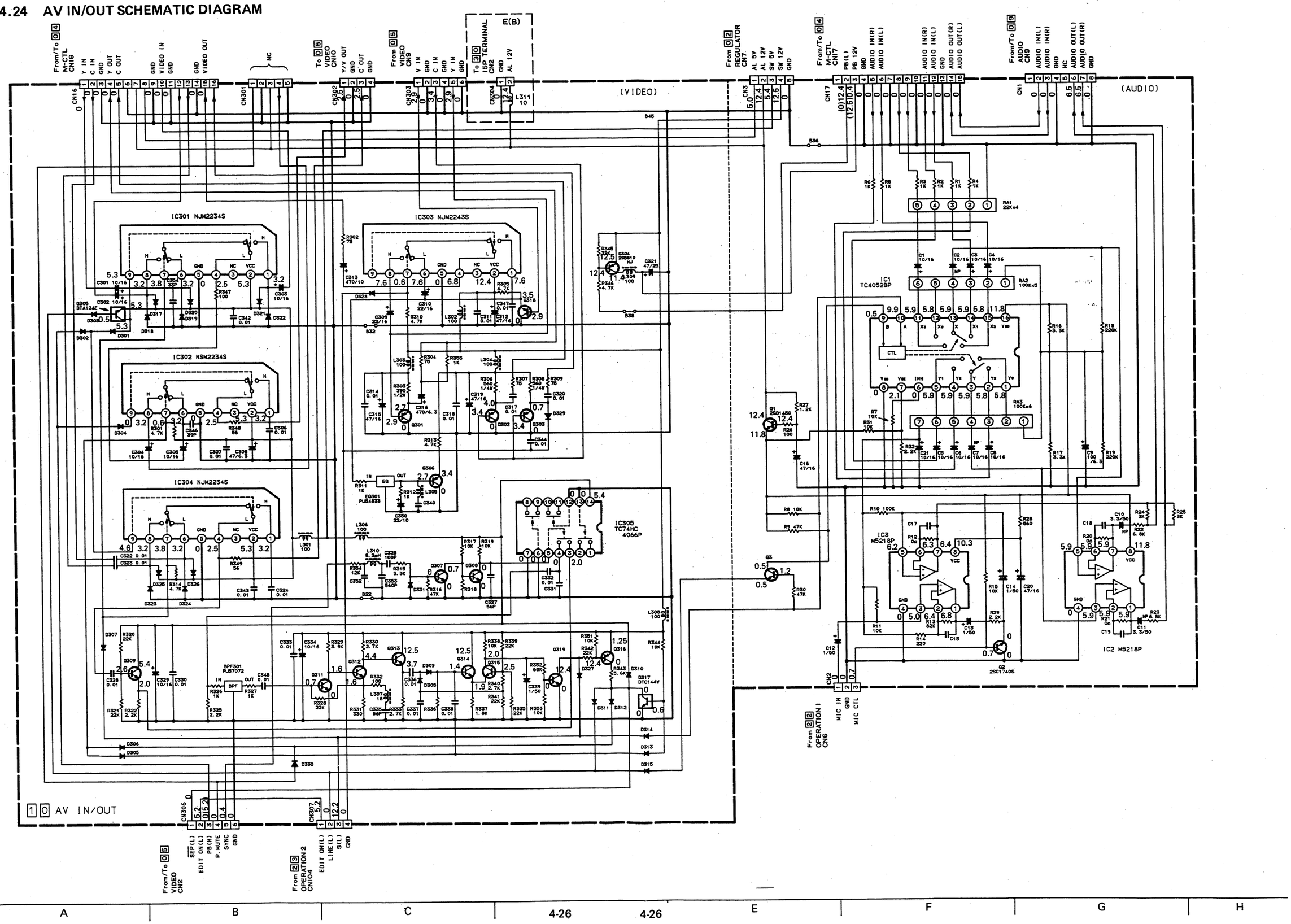
4.22 PRE/REC AMP SCHEMATIC DIAGRAM



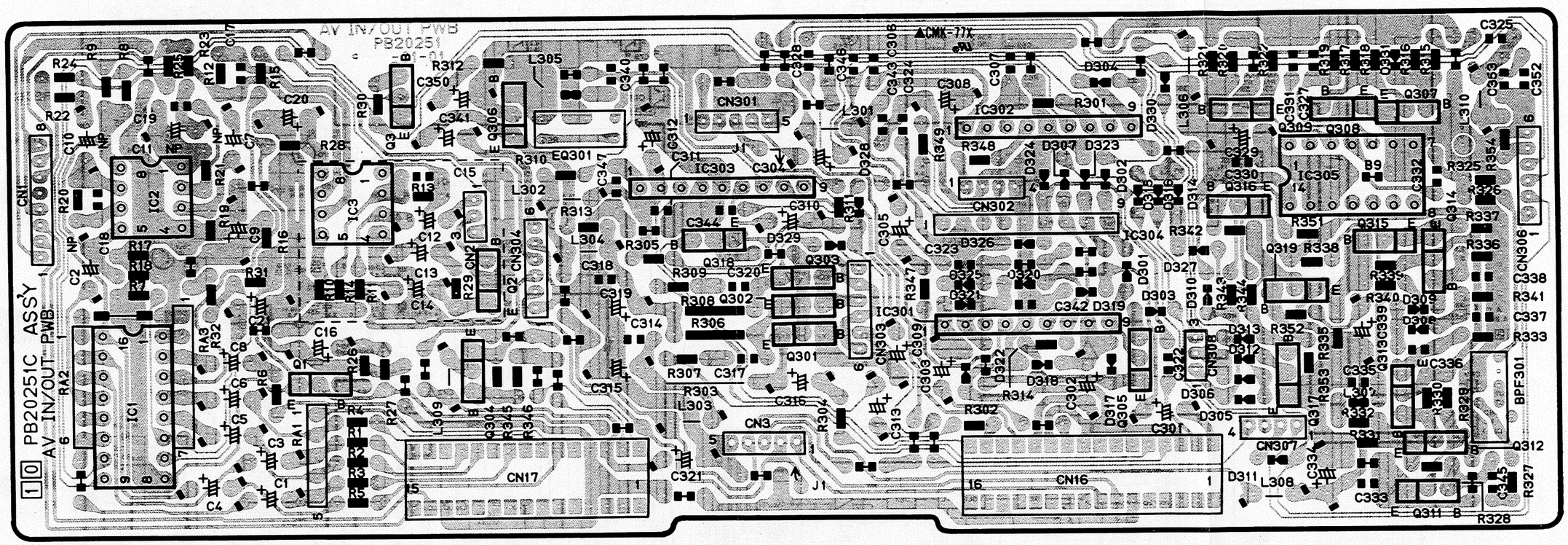
4.23 PRE/REC AMP CIRCUIT BOARD



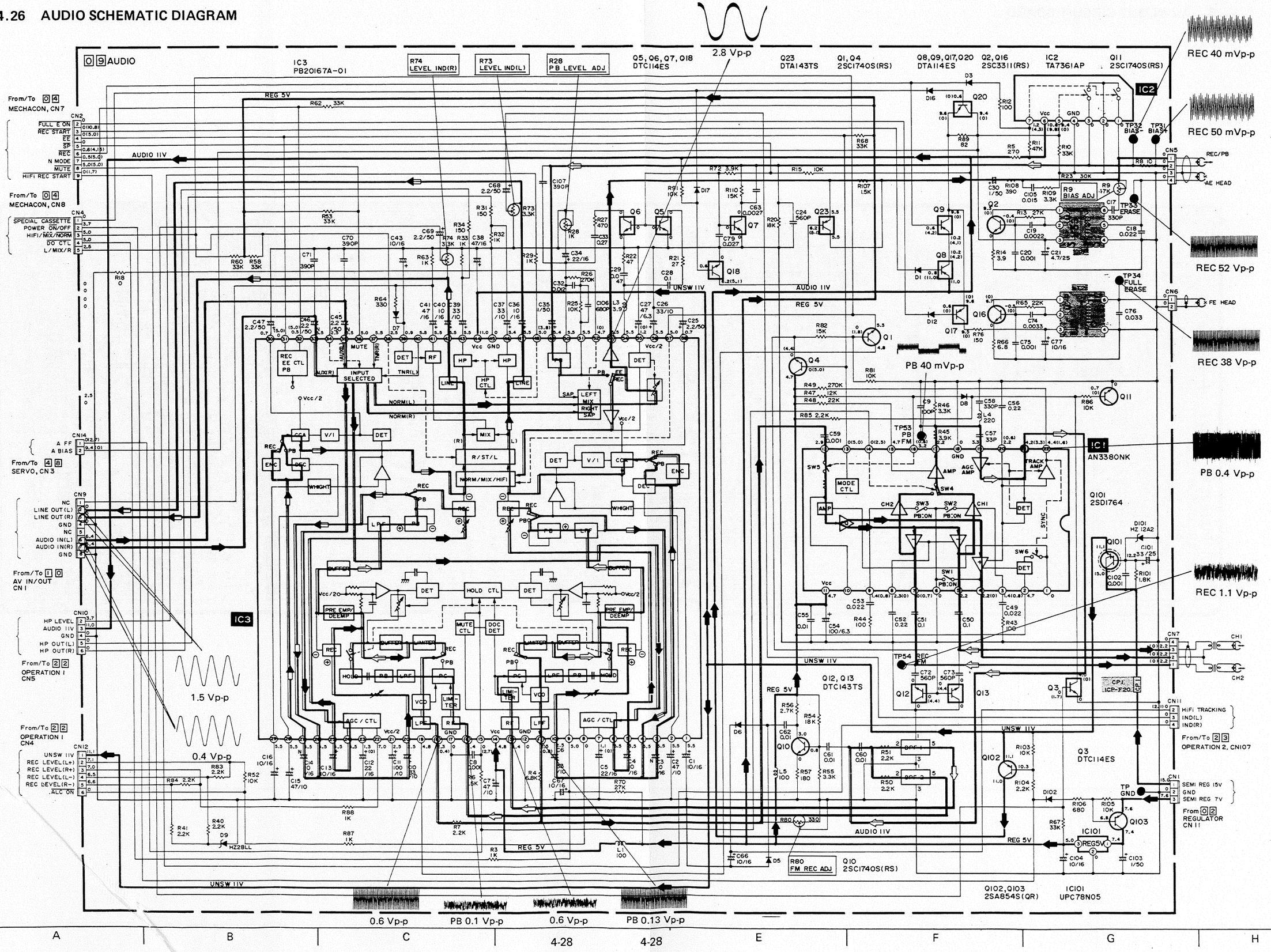
4.24 AV IN/OUT SCHEMATIC DIAGRAM



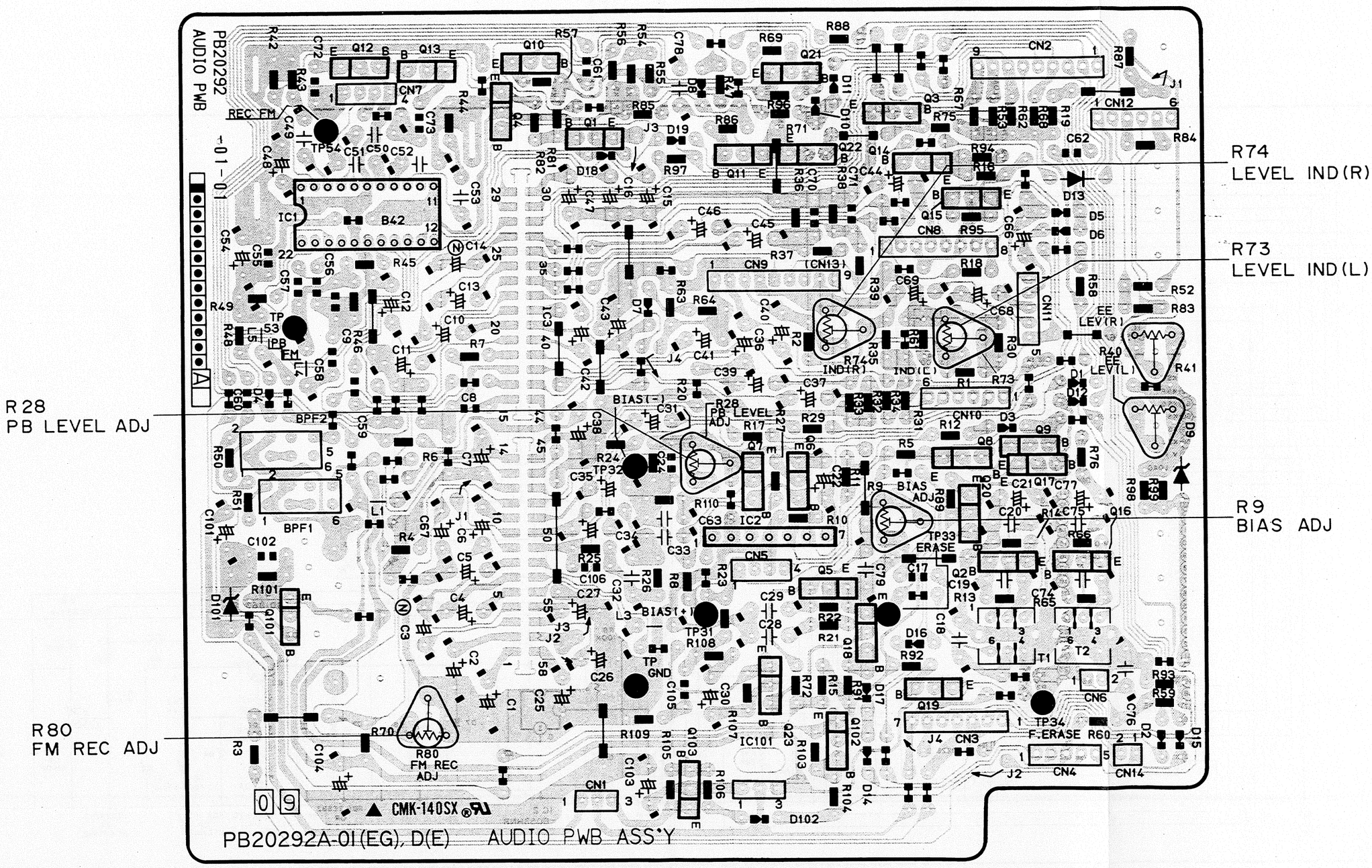
4.25 AV IN/OUT CIRCUIT BOARD



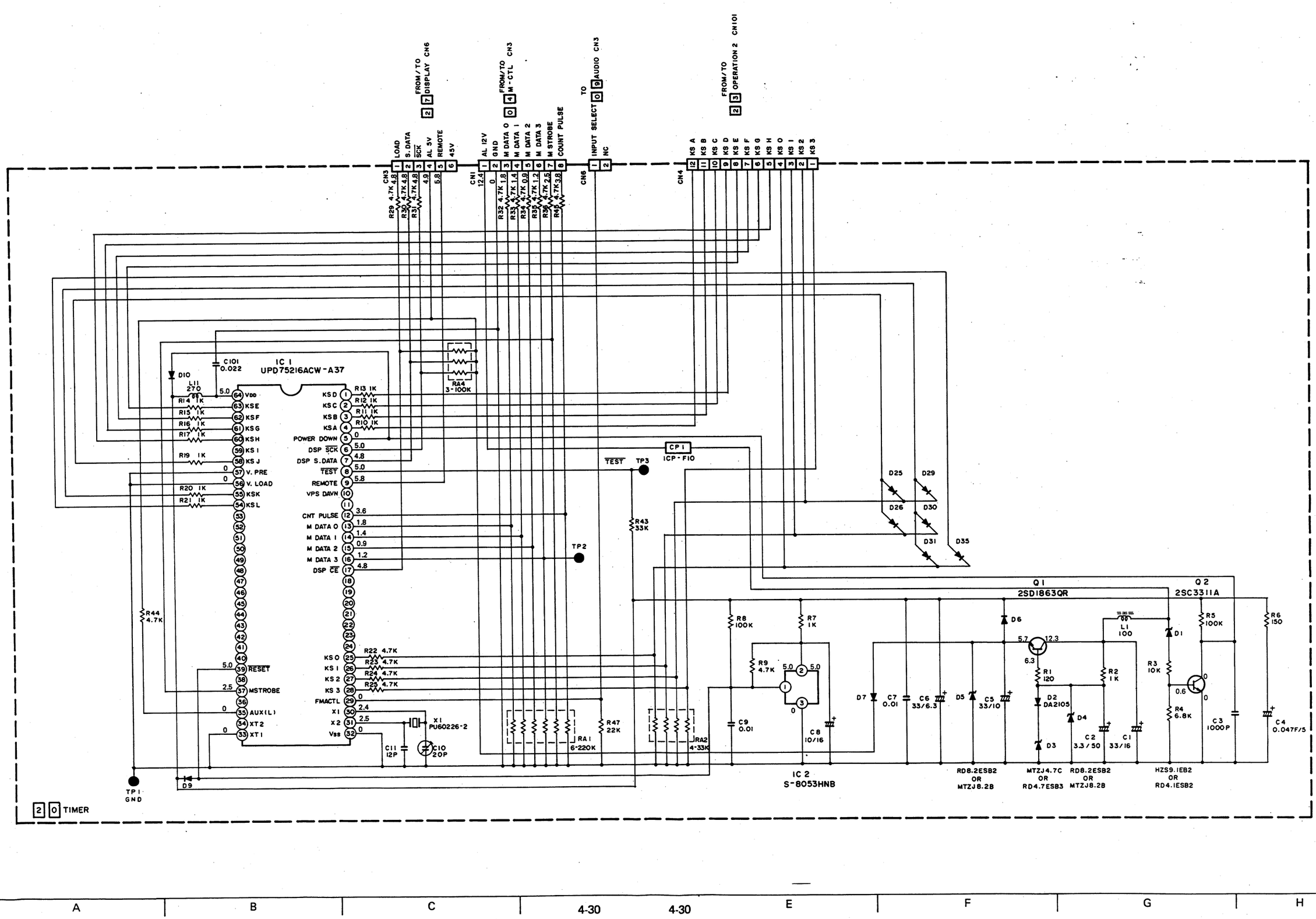
4.26 AUDIO SCHEMATIC DIAGRAM



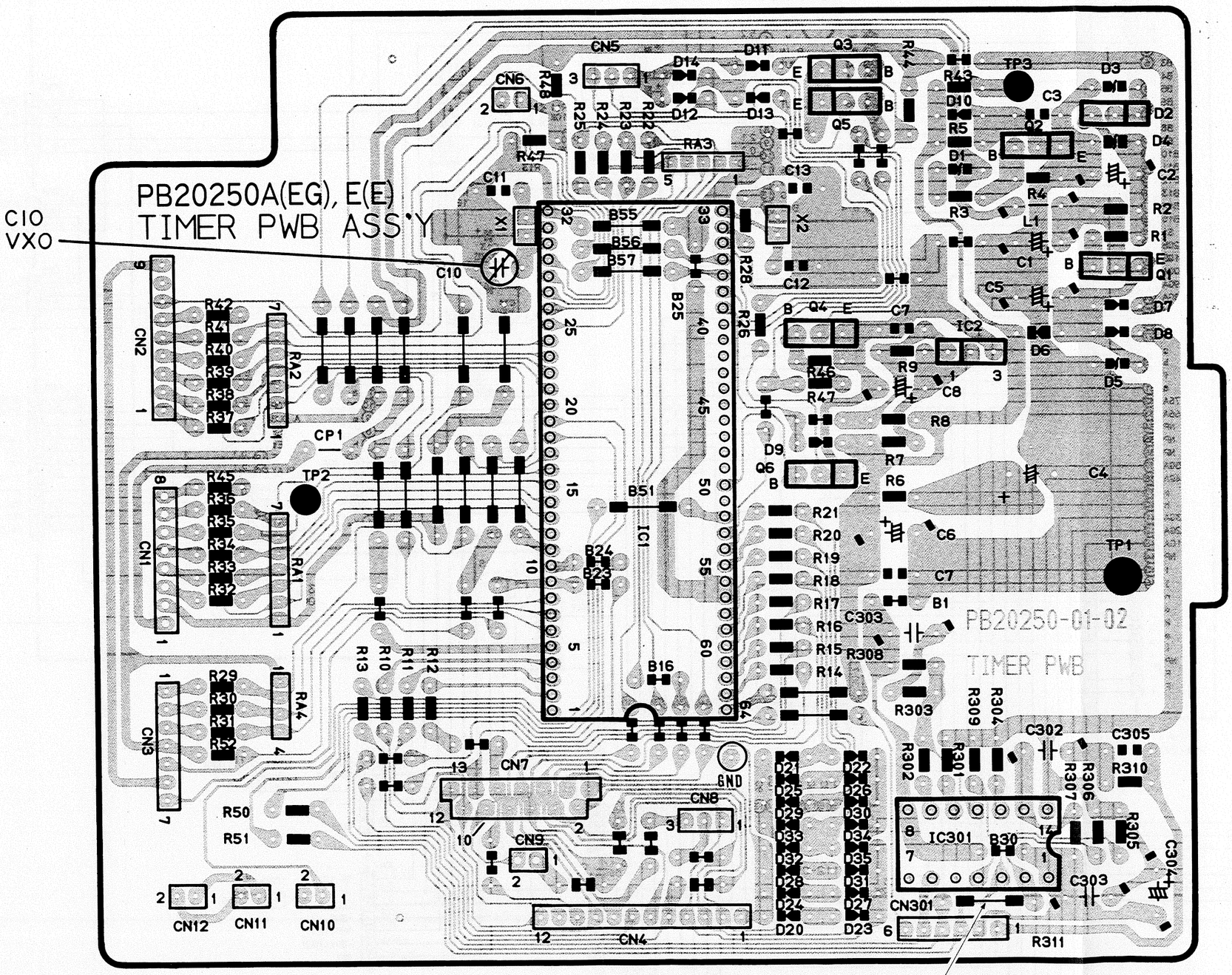
4.27 AUDIO CIRCUIT BOARD



4.28 TIMER SCHEMATIC DIAGRAM

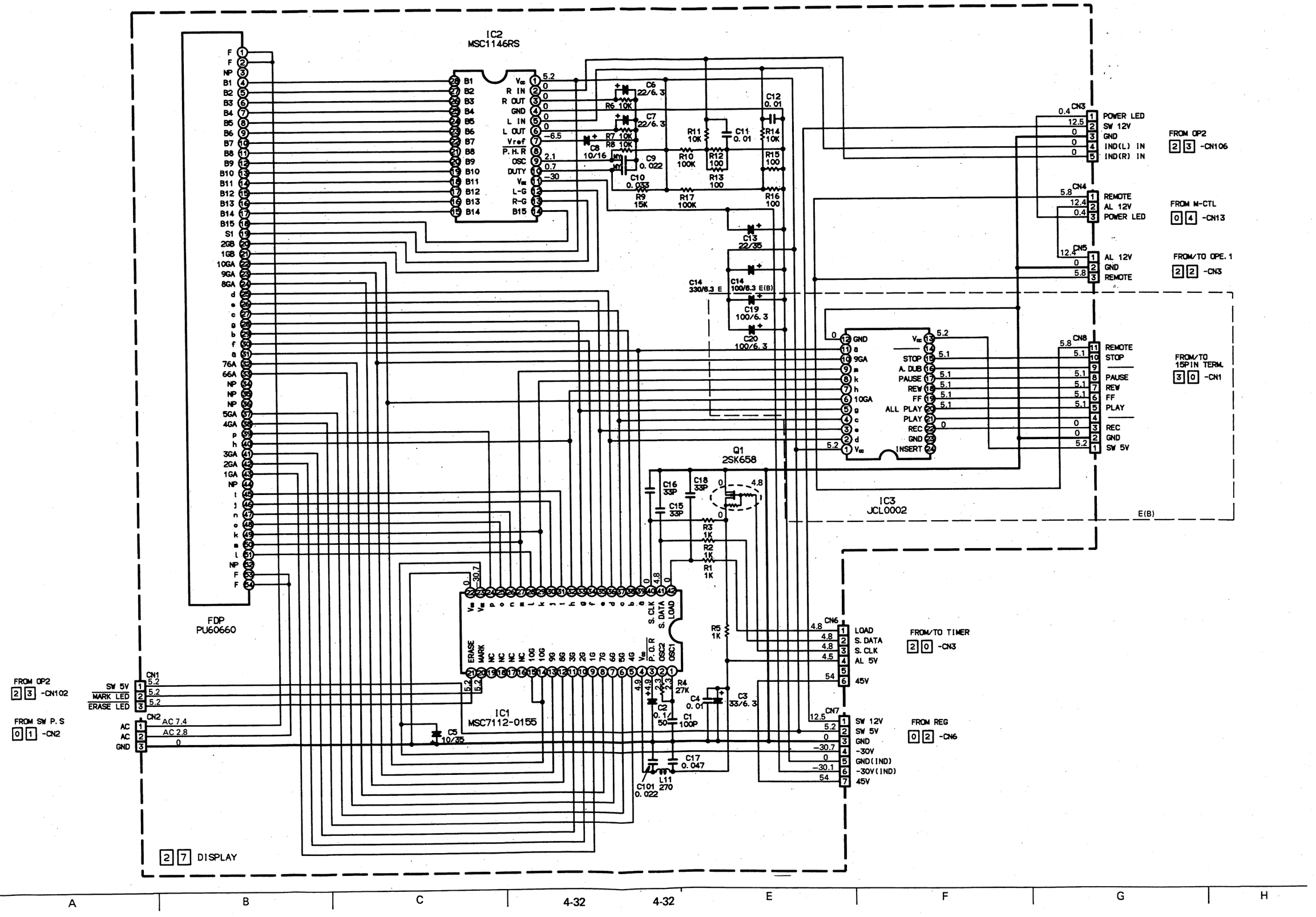


4.29 TIMER CIRCUIT BOARD

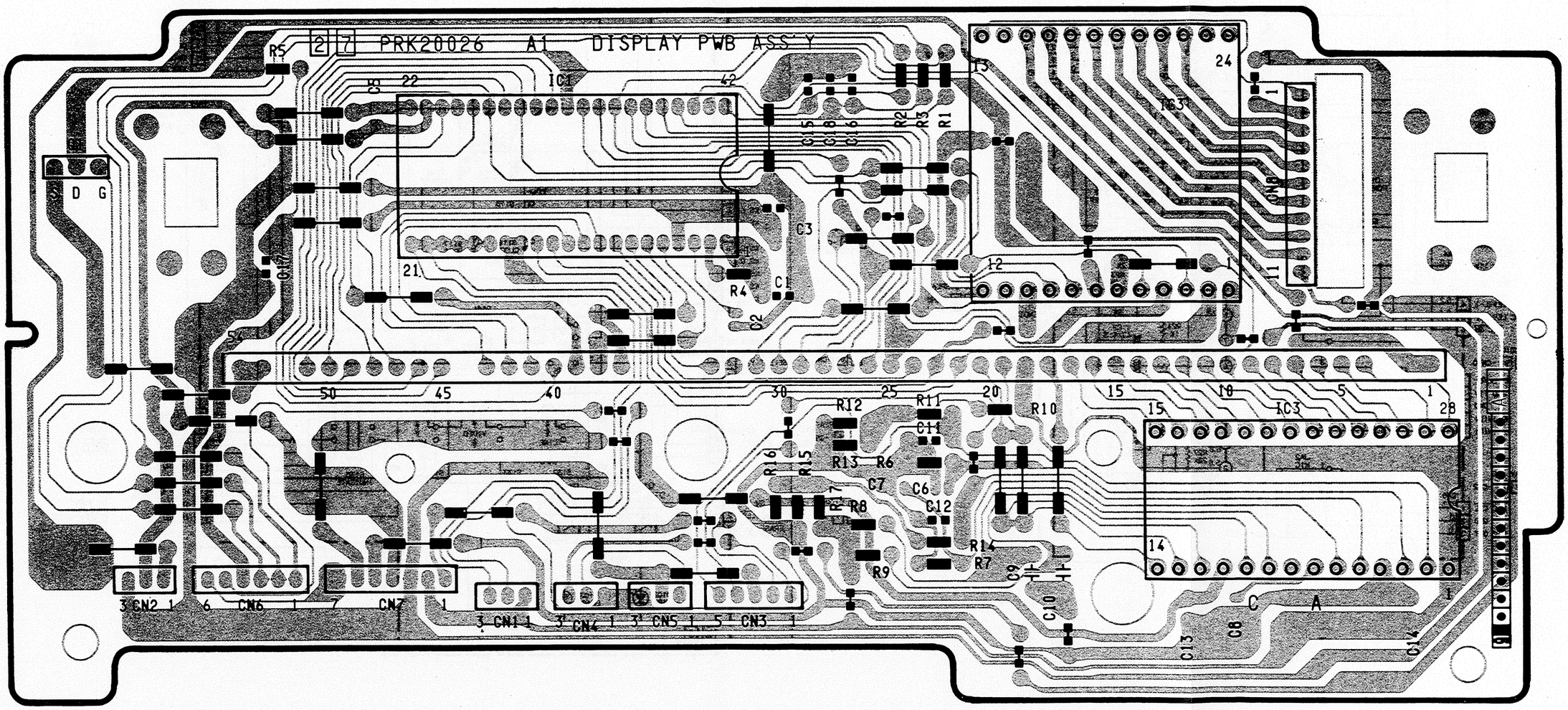


Note: This bus wire brings on a malfunction in the timer-play mode.
If this bus wire is still installed in the set (the set whose serial number is #610 or before is equipped with it), make sure to remove it.

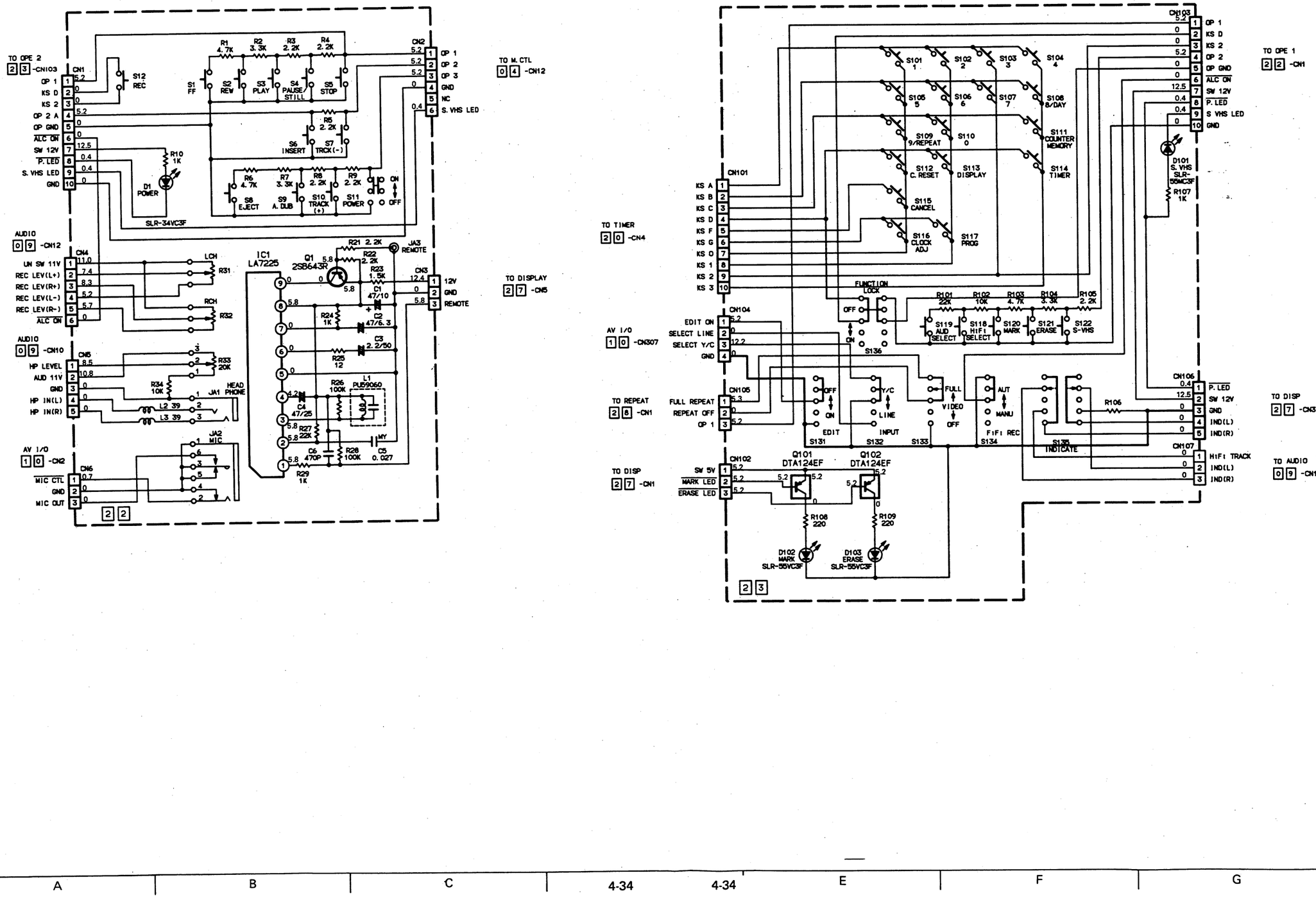
4.30 DISPLAY SCHEMATIC DIAGRAM



4.31 DISPLAY CIRCUIT BOARD

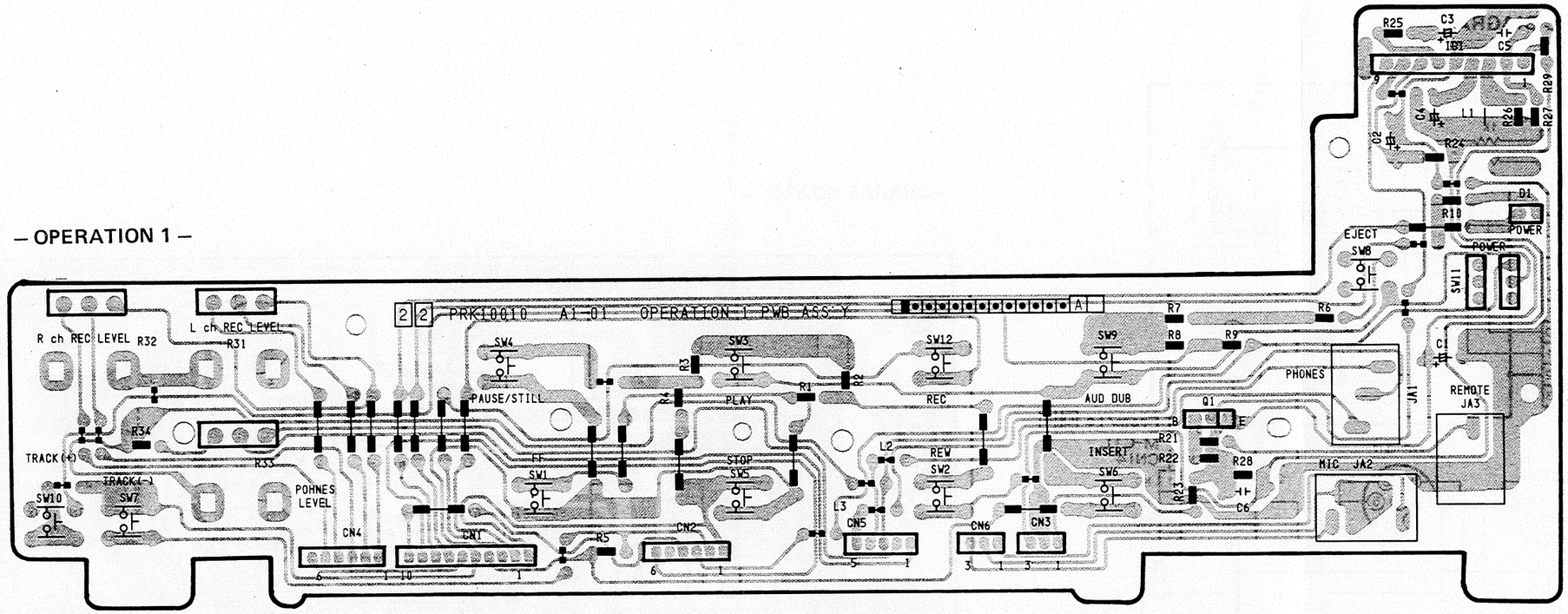


4.32 OPERATION 1, 2 SCHEMATIC DIAGRAMS

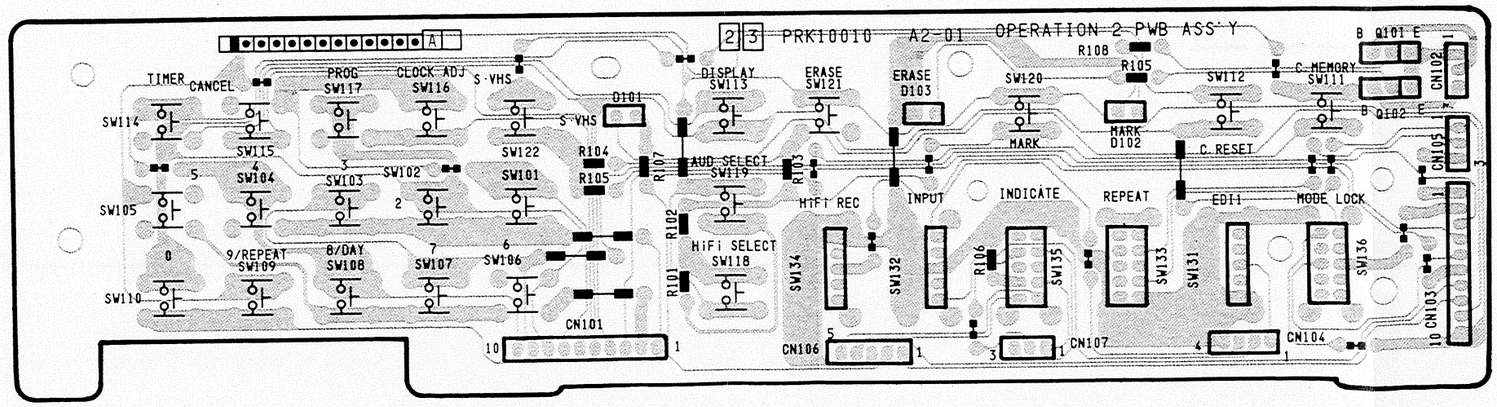


4.33 OPERATION 1, 2 CIRCUIT BOARDS

– OPERATION 1 –

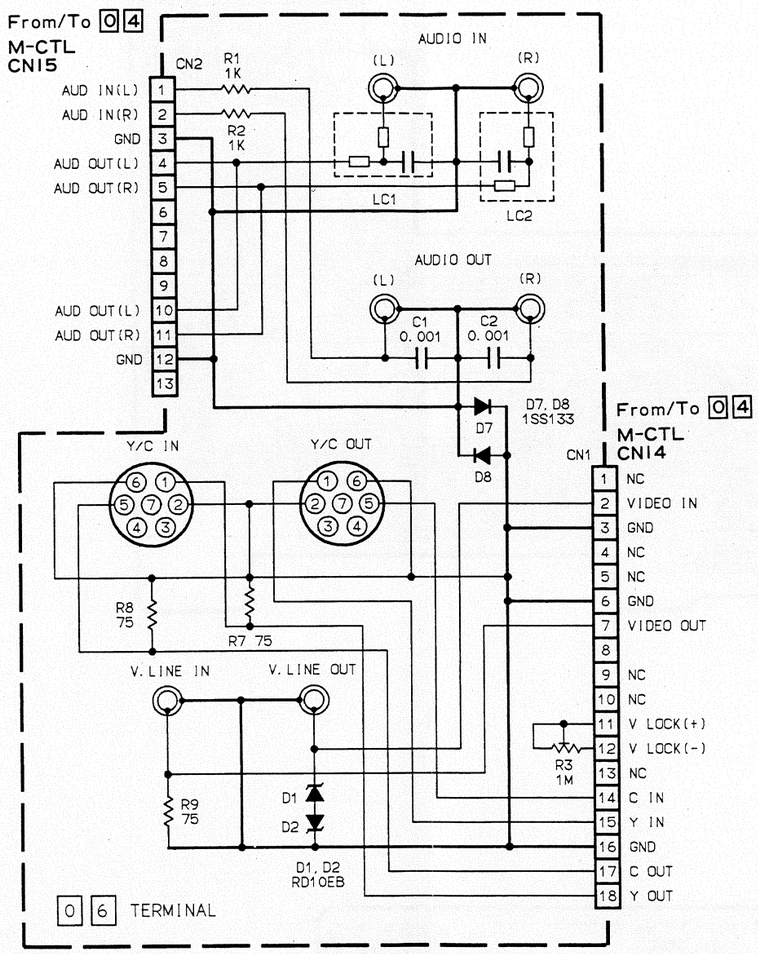


– OPERATION 2 –

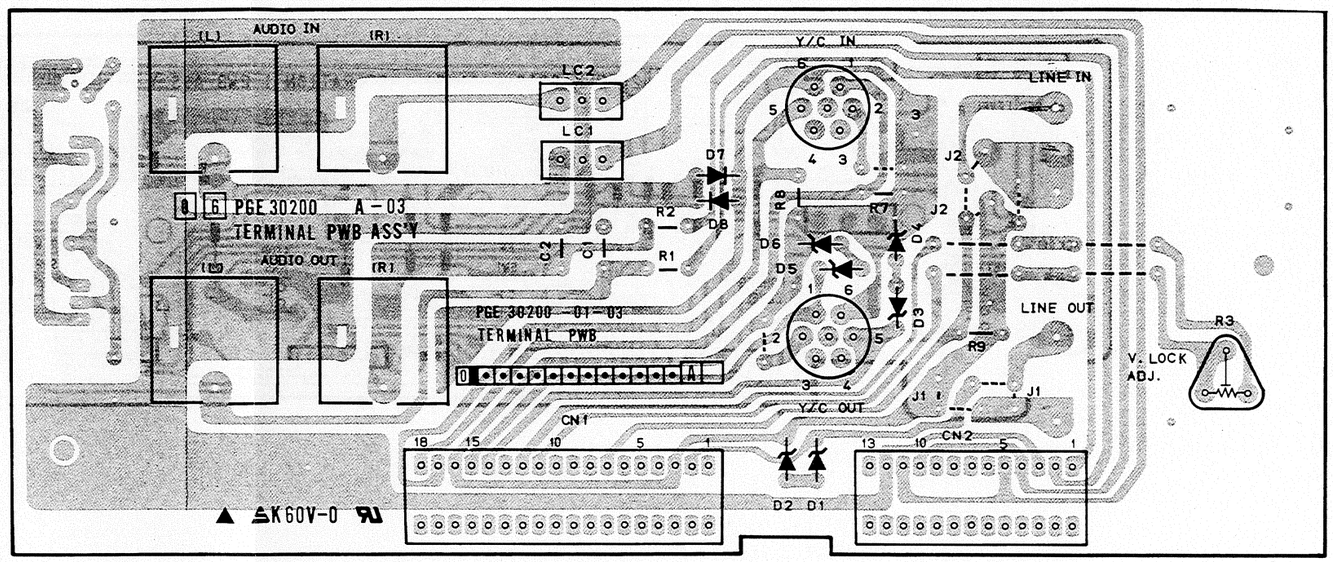


4.34 TERMINAL SCHEMATIC DIAGRAM AND CIRCUIT BOARD

– SCHEMATIC DIAGRAM –



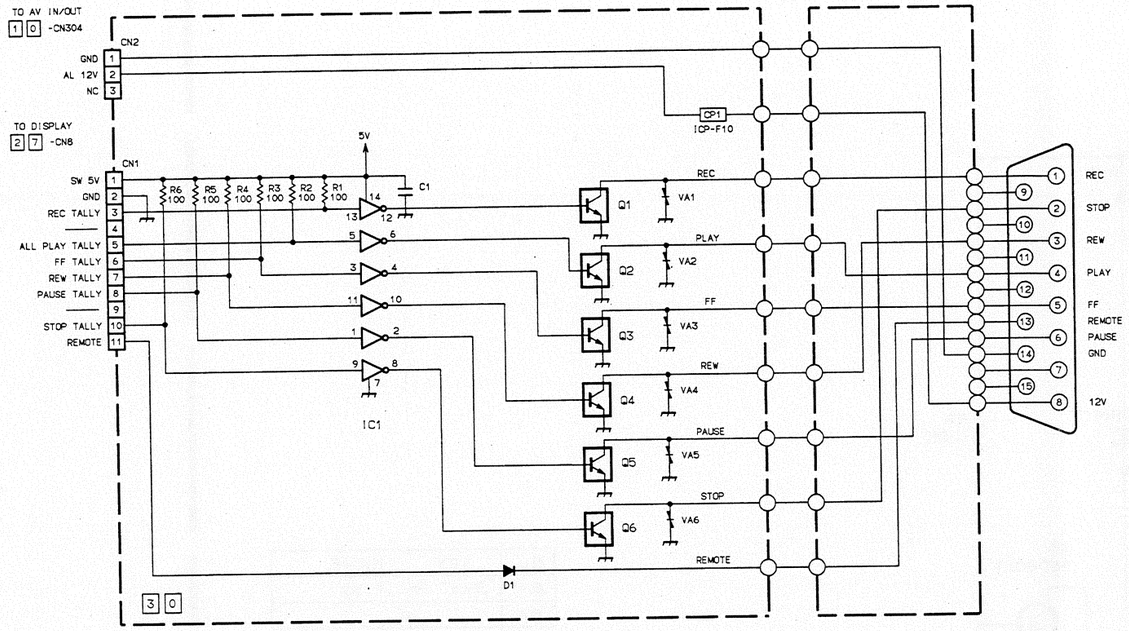
– CIRCUIT BOARD –

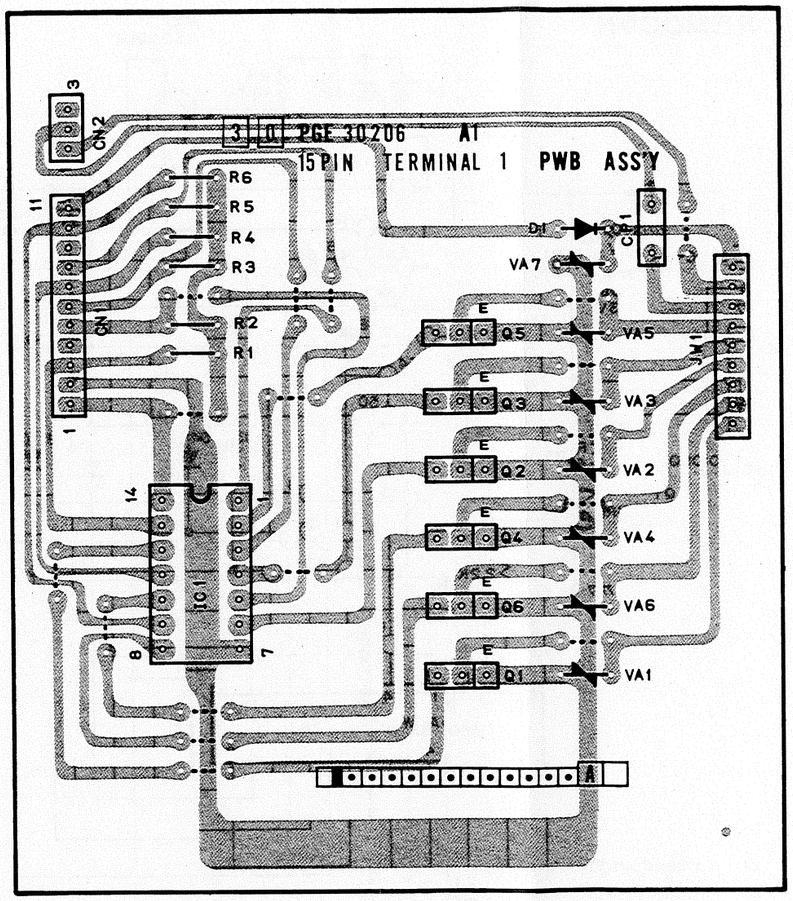


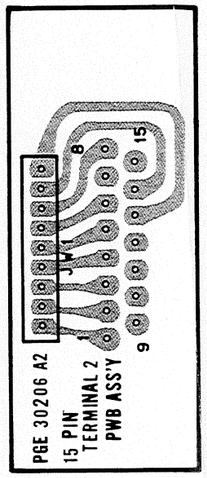
4-36

4.35 15 PIN TERMINAL SCHEMATIC DIAGRAM AND CIRCUIT BOARD

Note: The following circuit diagram and circuit board show BR-S600E(B).

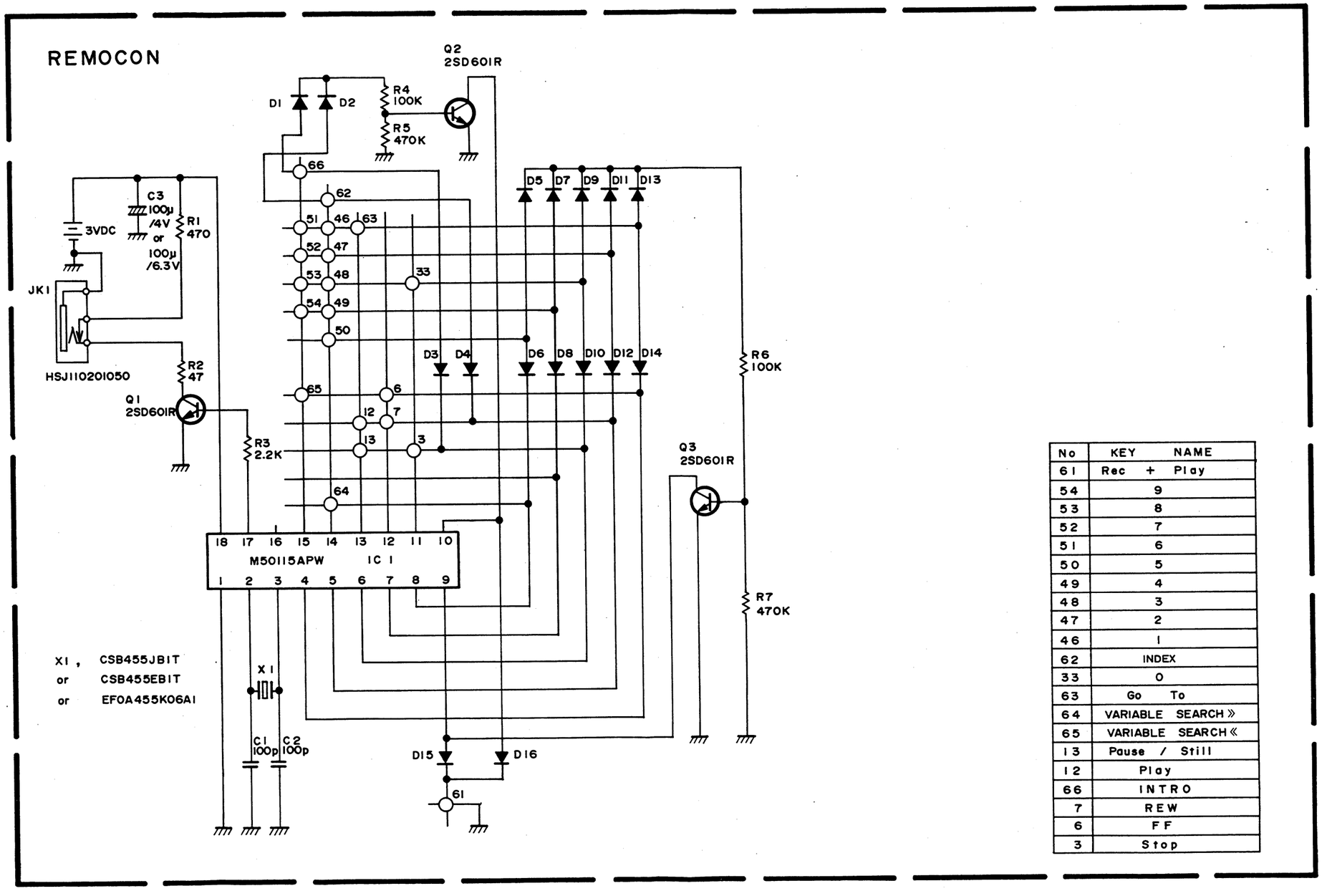






4.36 REMOTE CONTROL SCHEMATIC DIAGRAM

Notes: 1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.



No	KEY NAME
61	Rec + Play
54	9
53	8
52	7
51	6
50	5
49	4
48	3
47	2
46	1
62	INDEX
33	0
63	Go To
64	VARIABLE SEARCH »
65	VARIABLE SEARCH «
13	Pause / Still
12	Play
66	INTRO
7	REW
6	FF
3	Stop

SECTION 5
EXPLODED VIEWS AND PARTS LIST

SAFETY PRECAUTION

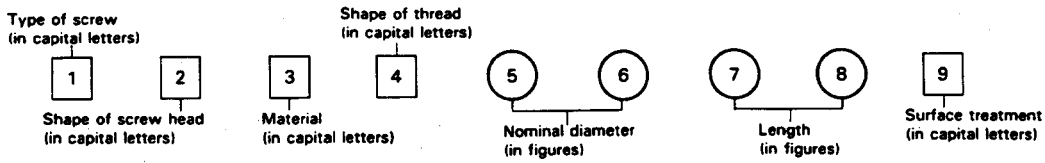
Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

NOTE: [M] indicates mechanical symbol number.

5.1 STANDARD PART NUMBER CODING

5.1.1 Screw coding

Standard screw part numbers are as follows.

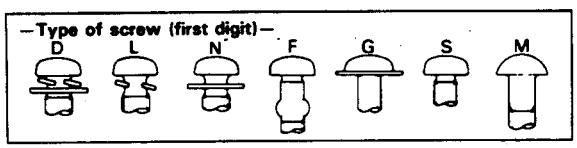


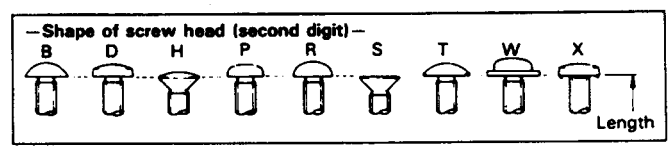
Type of screw (first digit)

- S Normal screws
- D Assembled machine screws (with plain and spring washers)
- L " (with spring washer)
- N " (with plain washer)
- F Feather screws
- G Washer head tapping screws
- M Wood screws

Shape of screw head (second digit)

- B Brazier head
- D Binding head
- H Oval countersunk head
- P Pan head
- R Round head
- S Flat head
- T Truss head
- W Washer head (machine screws)
- X Toothed head



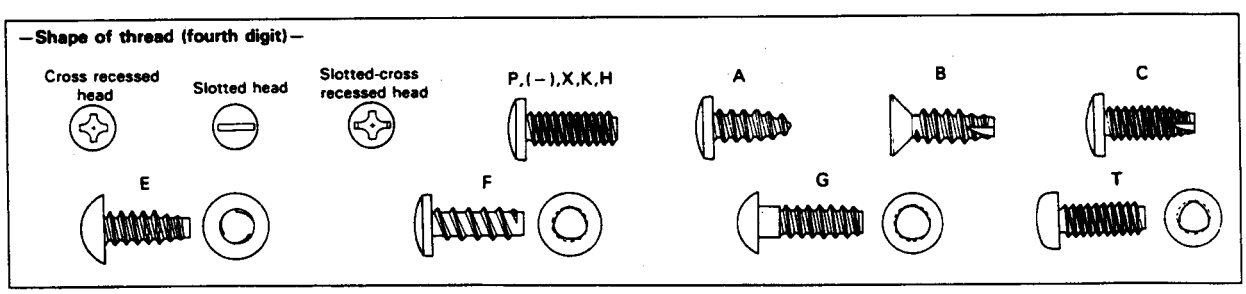


Material (third digit)

- S Steel
- E Stainless steel
- C Cast iron
- U Copper
- B Brass
- P Phosphor bronze
- N Nickel silver
- Y Cast brass
- A Aluminum
- Z Zinc alloy
- K Polycarbonate

Shape of thread (fourth digit)

- P Cross recessed head screws
- (−) Slotted head machine screws
- X Slotted-cross recessed head machine screws
- K Cross recessed head machine screws for precision equipment (type 1)
- H " (type 3)
- A Cross recessed head tapping screws (type 1)
- B " (type 2)
- C " (type 3)
- E Cross recessed head special tapping screws (brand : evertight)
- F " (brand : P-tight)
- T " (brand : taptight)
- G "



Nominal diameter (fifth and sixth digits)

The fifth and sixth digits indicate a nominal diameter or dimension. If the dimension exceeds 10 mm, three digits are used. The number indicates a nominal diameter or dimension, given in millimeters, multiplied by ten.

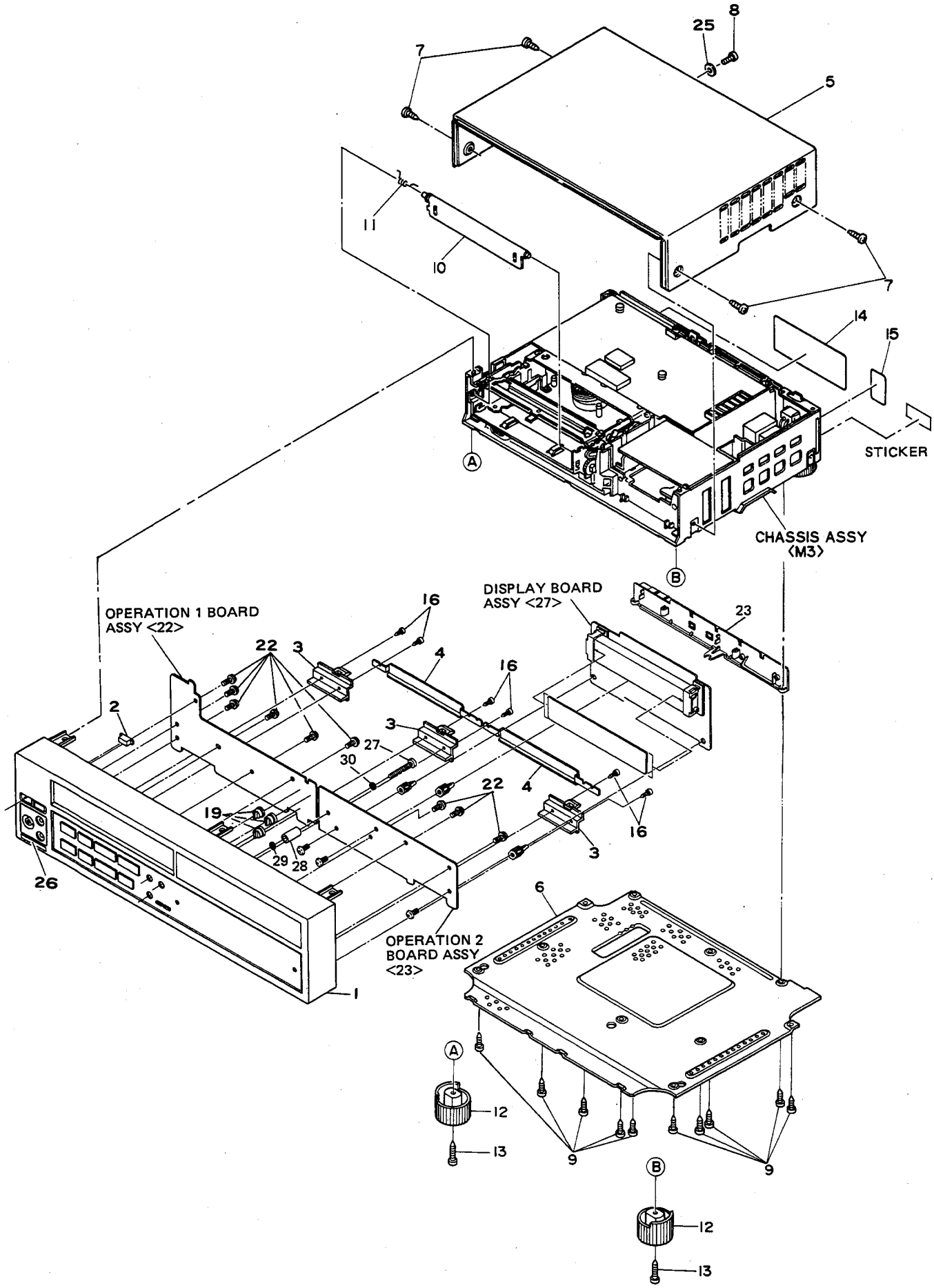
Length (seventh and eighth digits)

The seventh and eighth digits indicate length in millimeters. The preceding figure is zero when the dimension is smaller than 10 mm. For machine screws used in precision equipment whose length is given in units of 0.1 mm, the number indicates ten times the size of their length.

Surface treatment (ninth digit)

- Z Dichromate treatment after galvanizing (MFZn II-C)
- N Nickel plating (MFNiII, MFNiI)
- R Chromium plating (MBCrII, MBCrI)
- G Silver plating (SP4)
- B Black coating after plating
- F Blackening of iron (FB)
- M Blackening after galvanizing
- K Pickling of brass (PF2)
- P Phosphate treatment
- W Uni-chrome plating
- L Coated with transparent paint
- A Colored red after galvanizing (MFZnII-C)
- C Colored blue after galvanizing (MFZzII-C)
- T Colored green after galvanizing (MFZnII-C)
- V Colored purple after galvanizing (MFZnII-C)

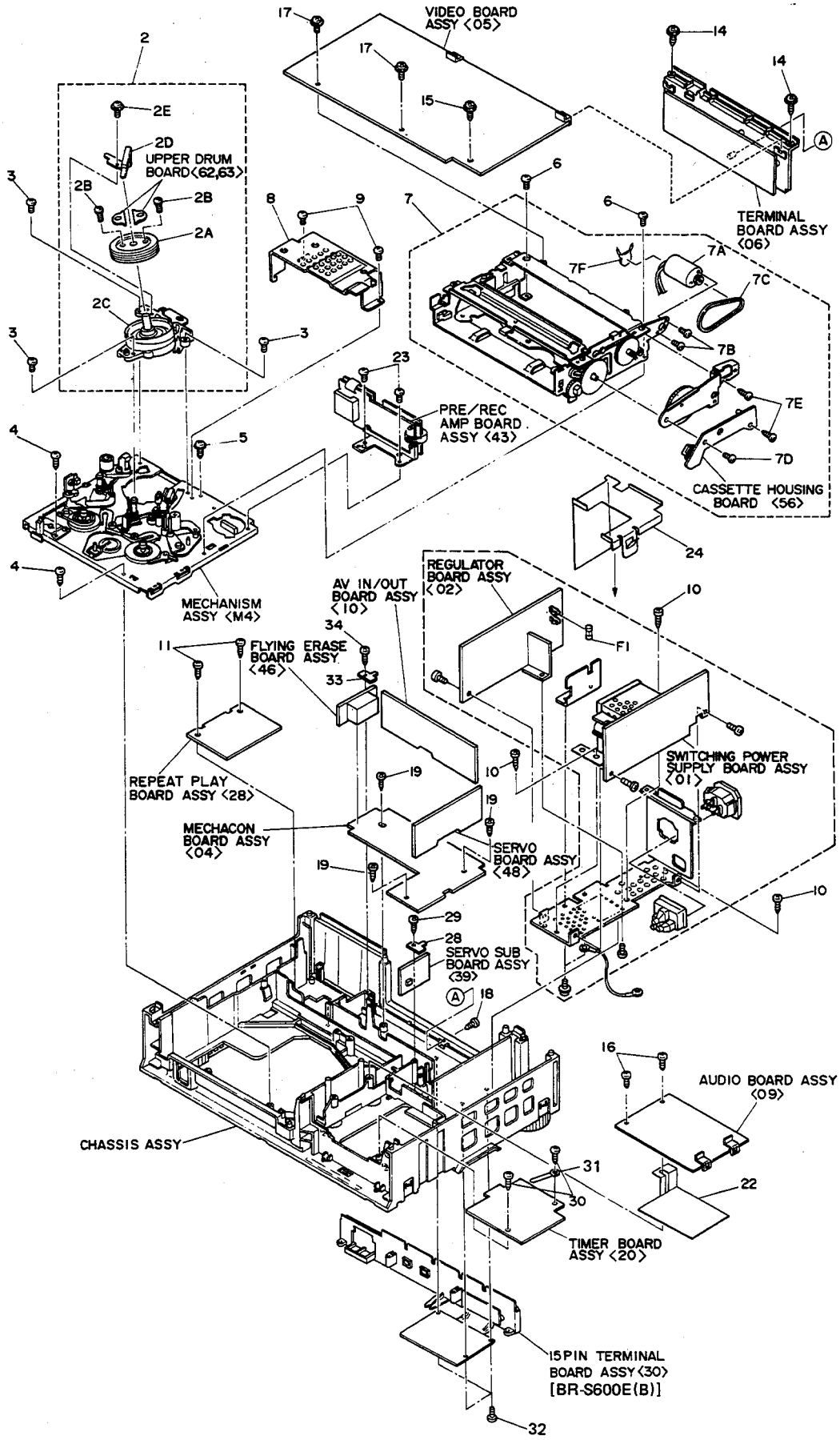
5.2 CABINET ASSEMBLY M 2



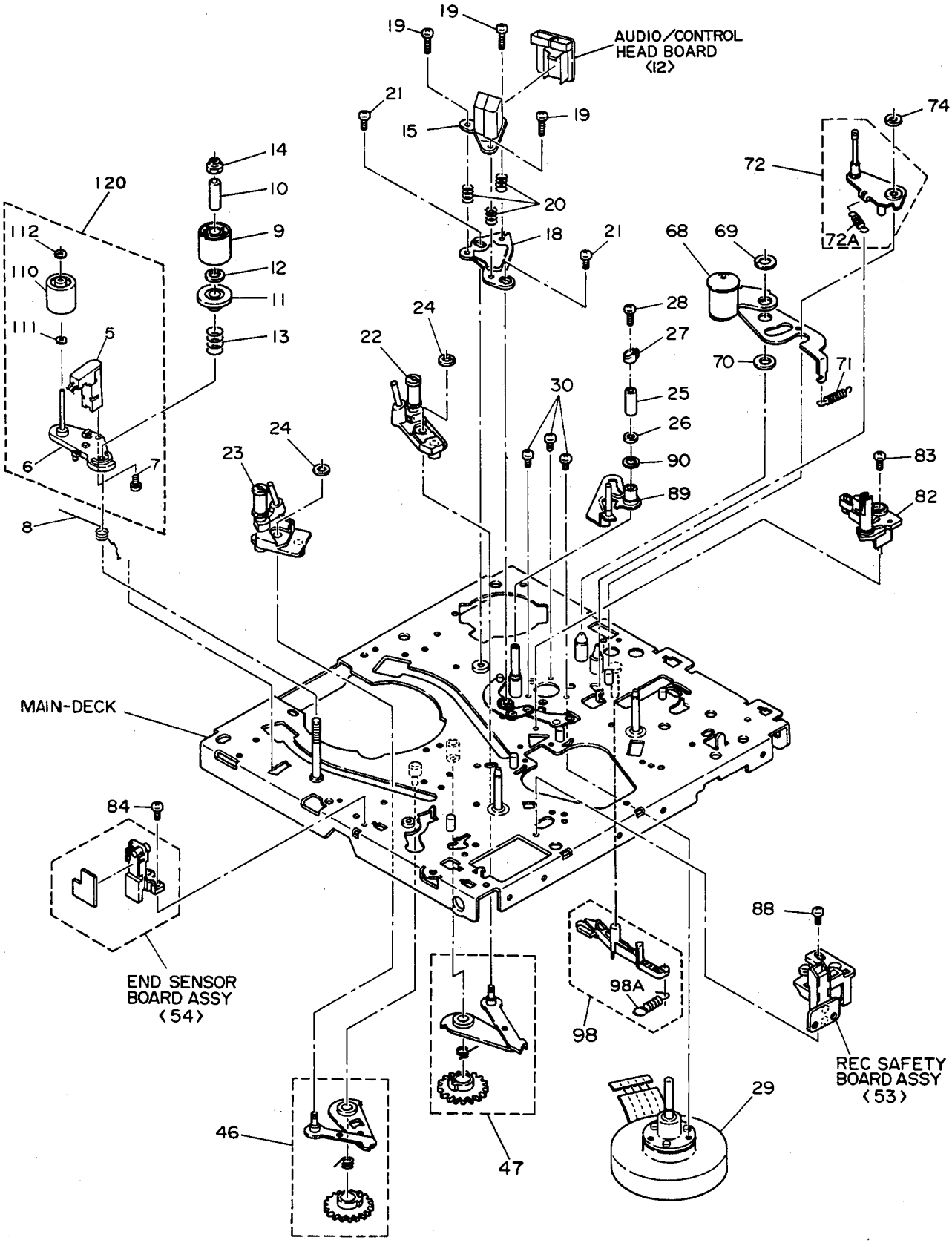
#	REF NO.	PART NO.	PART NAME, DESCRIPTION
			2. CABINET ASSEMBLY <M2>
	1	PRD10089G-11	FRONT PANEL ASSY
	2	PRD42471-01-02	KNOB (POWER)
	3	PRD30333-01-02	FRONT LOCK ,X3
	4	PRD30400	COVER BRACKET ,X2
⚠	5	PQ10545-7	TOP COVER
⚠	6	PQ10706-1-4	BOTTOM COVER
	7	PGD30030-07	SCREW, X4
	8	SDSF3010R	SCREW
	9	SDSF3008Z	SCREW, X10
	10	PRD30470	CASSETTE HOUSING DOOR
	11	PQ42410-1-1	TORSION SPRING
	12	PQ43703A-1	FOOT ASSY, X2
	13	SDSF3012Z	SCREW, X2
⚠	14	PGD30307-15	RATING LABEL, BR-S600E
⚠		PGD30307-16	RATING LABEL, BR-S600E(B)
	15	PRD42735-01-01	REAR SHEET
	16	SBSF2610Z	SCREW, X6
	19	PGD40750-03	VR KNOB, X3
	22	SDSF2608Z	SCREW, X9
	23	PQ20727-3	JACK BOARD, BR-S600E
	25	WBS3000N	WASHER
	26	PQ40111-1-5	SERIAL NO.PLATE
	27	SPSP3014Z	SCREW
	28	PRD30026-35	COLLAR
	29	PUM30017-5	SLIT WASHER
	30	PQM30017-4	SLIT WASHER

#	REF NO.	PART NO.	PART NAME, DESCRIPTION
			3. CHASSIS ASSEMBLY <M3>
	2	PDV2146A	DRUM ASSY
	2A	PDM2119A	UPPER DRUM ASSY
	2B	PDM4165A	SCREW, X2
	2C	PDM2113C	LOWER DRUM MOTOR ASSY
	2D	PDM4015B	BRUSH ASSY
	2E	LPSP2606Z	SCREW
	3	SDSP2608Z	SCREW, X3
	4	PQ43831-2	SPECIAL SCREW, X2
	5	PQ43831-2	SPECIAL SCREW
	6	SDST2605Z	SCREW, X2
	7	PUS28277H	CASSETTE HOUSING ASSY
⚠	7A	PQ42385A	MOTOR ASSY (CASSETTE)
⚠	OR	PQ42385B	MOTOR ASSY (CASSETTE)
	7B	SPSP2603Z	SCREW, X2
	7C	PQM30003-19	CASSETTE BELT
	7D	SPSP2604Z	SCREW
	7E	SPST2605Z	SCREW, X2
	7F	DV710SR223M16	VARISTOR
	8	PQ31171-5	DRUM SHIELD
	9	SDST2605Z	SCREW, X2
	10	PQ43831-2	SPECIAL SCREW, X3
	11	SDSF3008Z	SCREW, X2
	14	GPSF2610Z	SCREW, X2
	15	GPSF2610Z	SCREW
	16	SDSF3008Z	SCREW, X2
	17	PQ44003	SCREW, X2
	18	SDSF3010M	SCREW
	19	SDSF3008Z	SCREW, X3
	22	PQ32255A	SHILD PLATE ASSY
	23	SDST2605Z	SCREW, X2
	24	PQ32578	AC COVER
	28	PQ43714	BRACKET
	29	SDSF3008Z	SCREW
	30	SDSF3008Z	SCREW, X2
	31	PU49485-4	WIRE CLAMP
	32	SDSF3008Z	SCREW, X3 BR-S600E(B)
	33	PQ43714	BRACKET
	34	SDSF3008Z	SCREW

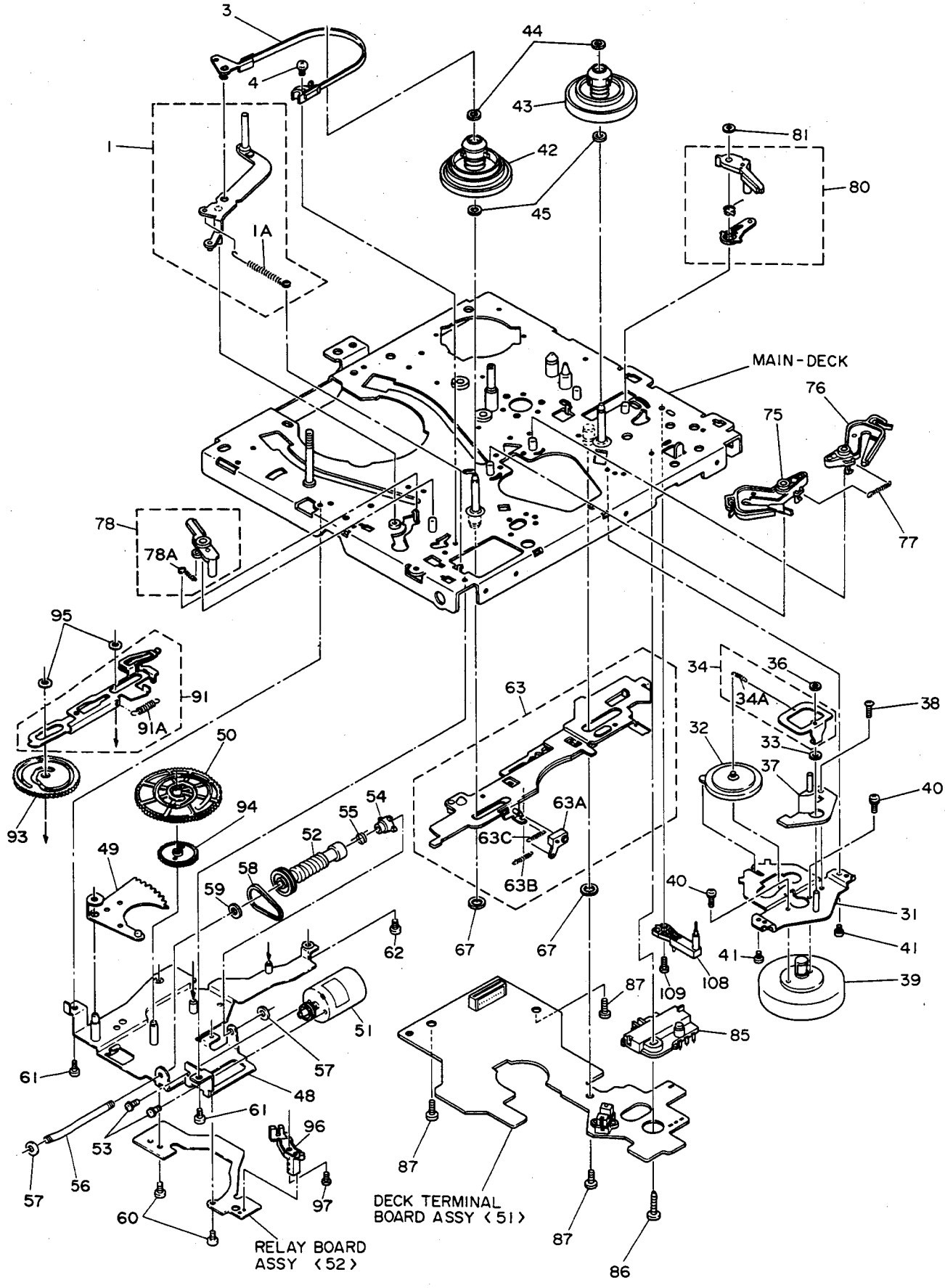
5.3 CHASSIS ASSEMBLY M3



5.4 MECHANISM ASSEMBLY (1) M 4



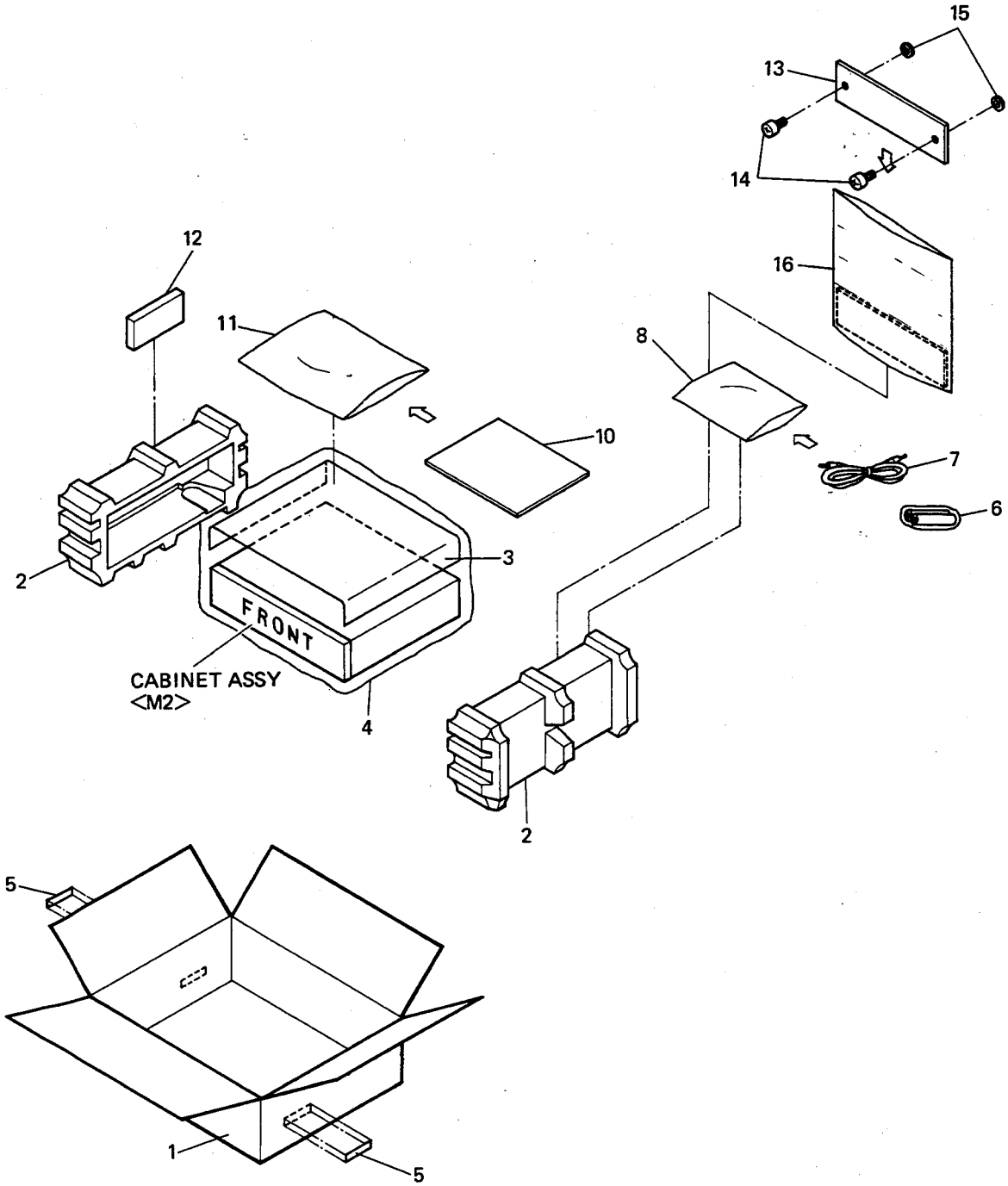
MECHANISM ASSEMBLY (2) M 4



#⚓	REF NO.	PART NO.	PART NAME, DESCRIPTION
			4. MECHANISM ASSEMBLY <M4>
	1	PQ43710A	TENSION ARM ASSY
	1A	PQ41952-5	SPRING
	3	PQ41948A	TENSION BAND ASSY
	4	SDST2606Z	SCREW
	5	PU60646	FULL ERASE HEAD
	6	PQ43299A-2	FULL ERASE HEAD SUB ASSY
	7	LPSP2004Z	SCREW
	8	PQ41954-1-1	TORSION SPRING
	9	PQ41955	IMPEDANCE ROLLER
	10	PQ41956	COLLAR
	11	PQ41957	LOWER FLANGE
	OR	PQ42958	LOWER FLANGE
	12	PQM30018-39	SPACER
	OR	PQM30018-50	SPACER
	13	PQM30002-124	COMPRESSION SPRING
	14	PQ40353	NYLON NUT
	15	PU60560-2	AUDIO/CONTROL HEAD
	18	PQ42984-2	HEAD BASE
	19	PQ43687A	SCREW, X3
	20	PU30080-49	SPRING, X3
	21	SDSP2606Z	SCREW, X2
	22	PGZ01143	POLE BASE ASSY (TAKE-UP)
	OR	PU59994	POLE BASE ASSY (TAKE-UP)
	OR	PQ43148A	POLE BASE ASSY (TAKE-UP)
	23	PU60556-1-2	POLE BASE ASSY (SUPPLY)
	OR	PU59993	POLE BASE ASSY (SUPPLY)
	OR	PQ43147A	POLE BASE ASSY (SUPPLY)
	24	PQM30017-5	SLIT WASHER, X2
	25	PU53629-3	TAPE GUIDE
	26	PQ40268-2	GUIDE FLANGE
	27	PRD42612	GUIDE POLE CAP
	28	SDSP2006Z	SCREW
⚓	29	PU60201V	CAPSTAN MOTOR
	30	SPSP2605N	SCREW, X3
	31	PQ41974A-3	REEL MOTOR BRACKET ASSY
	32	PU58645-1-4	IDLER ARM
	33	Q03093-834	WASHER
	34	PQ41976A-1	SPRING ARM ASSY
	34A	PQ42212-1-4	SPRING
	36	PQM30017-22	SLIT WASHER
	37	PQ41978	HOLDER
	38	SPST2606Z	SCREW
⚓	39	PU59926V	REEL MOTOR
	40	LPSP2604Z	SCREW, X2
	41	SPST2606Z	SCREW, X2
	42	PU59250-1-2	REEL DISK (SUPPLY)
	43	PU58638-1-2	REEL DISK (TAKE-UP)
	44	PQM30017-5	SLIT WASHER, X2
	45	Q03093-828	WASHER, X2
	46	PQ41979A-5	LOADING ARM ASSY (SUPLLY)
	47	PQ41985B-3	LOADING ARM ASSY (TAKE-UP)
	48	PQ42973A	CAM BRACKET ASSY
	49	PQ41994A-3	ARM GEAR ASSY
	50	PQ20577	CONTROL CAM

#⚓	REF NO.	PART NO.	PART NAME, DESCRIPTION
	51	PQ41996B	MODE MOTOR ASSY
	OR	PQ41996C	MODE MOTOR ASSY
	52	PQ41998A	WORM ASSY
	53	LPSP2604Z	SCREW, X2
	54	PQ42001	WINDMILL
	55	PQ42002	CLUTCH SPRING
	56	PQ42003	WORM SHAFT
	57	PQM30017-5	SLIT WASHER, X2
	58	PQM30003-20	BELT
	59	PQM30018-22	SPACER
	60	SPST2606Z	SCREW, X2
	61	SPST2606Z	SCREW, X2
	62	LPSP2604Z	SCREW
	63	PQ42038C	PLATE ASSY
	63A	PQ31044-1-2	LOCK LEVER
	63B	PQM30001-223	TENSION SPRING
	63C	PQM30001-211	TENSION SPRING
	67	PQM30017-28	SLIT WASHER, X2
	68	PQ42006B	PINCH ROLLER ARM ASSY
	69	PQM30017-28	SLIT WASHER
	70	Q03093-833	WASHER
	71	PQM30001-229	TENSION SPRING
	72	PQ42013B-4	GUIDE ARM ASSY
	72A	PQ42029	SPRING
	74	PQM30017-6	SLIT WASHER
	75	PQ42019B-6	MAIN BRAKE ASSY (SUPPLY)
	76	PQ42020B	MAIN BRAKE ASSY (TAKE-UP)
	77	PQM30001-216	TENSION SPRING
	78	PQ42021A-3	SUB BRAKE ASSY (SUPPLY)
	78A	PQ42023-1-2	TENSION SPRING
	80	PQ42037A-2	SUB BRAKE ASSY (TAKE-UP)
	81	PQM30017-6	SLIT WASHER
	82	PU59925-1-1	LED HOLDER, INCLUDE LED
	83	SPST2606Z	SCREW
	84	SPST2606Z	SCREW
	85	PU60444	SLIDE ENCODER
	86	SDSP2610Z	SCREW
	87	SDSP2606Z	SCREW, X3
	88	SDST2606Z	SCREW
	89	PRD42685A	HALF LOADING ARM ASSY
	90	PQM30017-29	SLIT WASHER
	91	PQ42974A	SLIDE CAM PLATE ASSY
	91A	PQM30001-224	SPRING
	93	PQ31677	HALF LOADING CAM
	94	PQ42963	SECOND GEAR
	95	PQM30017-24	SLIT WASHER, X2
	96	PU61088	REEL SENSOR (S)
	97	LPSP2604Z	SCREW
	98	PQ43295A-1	MOTOR BRAKE ASSY
	98A	PQ43296	SPRING
	108	PU59919-1-1	CASSETTE SWITCH
	109	SDST2608Z	SCREW
	110	PQ43298A	ROLLER ASSY
	111	Q03093-829	WASHER
	112	PQM30017	SLIT WASHER
	120	PQ43330B-2	FULL ERASE HEAD ASSY

5.5 PACKING ASSEMBLY M 1



#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
			**********
			**********
			* 1. PACKING ASSEMBLY <M1> *
			**********
	1	PRD20162-05-05	PACKING CASE
	2	PRD10091A-03	CUSHION ASSY
	3	PU57777	WADDING PAD
	4	PQM30021-70	POLY BAG
	5	PUP40329	SERIAL NO.STICKER, X2
	6	UM-4NJ2P	BATTERY, 2CELLES
	7	PGZ00418	REMOTE CABLE
	8	QPGA020-02003	POLY BAG
⚠	10	PGD30002-192	INSTRUCTIONS,BR-S600E(B)
⚠		PGD30002-185	INSTRUCTIONS,BR-S600E
	11	QPGA025-03505	POLY BAG
	12	PGZ01065B	REMOTE CONTROLLER
	13	PRD30335	SWITCH COVER
	14	PRD42441	STOPPER, X2
	15	PUM30017-6	SPACER, X2
	16	QPGA020-03005	POLY BAG

SECTION 6
ELECTRICAL PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

RESISTORS– All resistance values are in ohms (Ω), unless otherwise indicated.

k	: 1,000 (Kilo)
M	: 1,000,000 (Mega)
Chip R	: Chip Resistor
Chip VR	: Chip Variable Resistor
Comp. R	: Composition Resistor
CR	: Carbon Film Resistor
FR	: Fusible Resistor
MFR	: Metal Film Resistor
MPR	: Metal Plate Resistor
OMR	: Oxide Metal Film Resistor
PMR	: Precision Metal Film Resistor
UFR	: Unflammable Resistor
VR	: Variable Resistor (Potentiometer)
WR	: Wire Wound Resistor

CAPACITORS–All capacitance values are in μF, unless otherwise indicated.

pF	: μμF (Pico farad)
C Cap	: Caramic Capacitor
Chip Cap	: Chip Capacitor
Chip T Cap	: Chip Tantalum Capacitor
E Cap	: Electrolytic Capacitor
FM Cap	: Film Mica Capacitor
LL Cap	: Low Leak Current Electrolytic Capacitor
MM Cap	: Metalized Mylar Capacitor
MP Cap	: Metalized Paper Capacitor
MY Cap	: Mylar Capacitor
NP Cap	: Non-polar Capacitor
PC Cap	: Polycarbonate Capacitor
PP Cap	: Polypropylene Capacitor
PS Cap	: Polystyrol Capacitor
T Cap	: Tantalum Capacitor
TF Cap	: Thin Film Capacitor
TR Cap	: Trimmer Capacitor

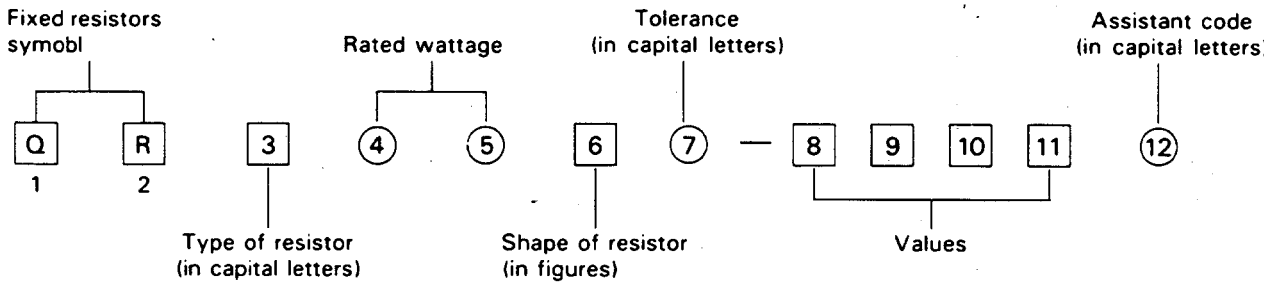
NOTES:

- [2 digits] indicates circuit board symbol number.
- "X " indicates quantity per set.

6.1 STANDARD PART NUMBER CODING

6.1.1 Fixed resistor coding

Fixed resistor part numbers are as follows.



Type of resistor (third digit)

C	Composition resistors
D	Carbon film resistors
F	Unflammable resistors
G	Oxide metal film resistors
H	Fusible resistors
M	Metal plate resistors
S	Metal glazed resistors
V	Precision metal film resistors
W	Wire wound resistors
X	Metal film resistors
Z	Special resistors

Rated wattage (fourth and fifth digits)

A0	1/10 W
18	1/8 W
16	1/6 W
14	1/4 W
12	1/2 W
01	1 W
02	2 W
03	3 W
04	4 W
05	5 W
06	6 W
07	7 W
75	7.5 W
08	8 W
10	10 W
15	15 W
A6	16 W
20	20 W
30	30 W

Tolerance (seventh digit)

F	± 1 %
G	± 2 %
J	± 5 %
K	± 10 %
M	± 20 %

Assistant code (twelfth digit)

A	Small type
B	Small type
S	Small type
Y	Lead taping
Z	Lead taping

Values (eighth – tenth or eleventh digits)

examples:

R47		0.47 Ω
4R7		4.7 Ω
470	47×10^0	47 Ω
471	47×10^1	470 Ω
472	47×10^2	4.7 kΩ
473	47×10^3	47 kΩ
474	47×10^4	470 kΩ
475	47×10^5	4.7 MΩ

QRV resistance shown by four digits:

4640	464×10^0	464 Ω
4641	464×10^1	4.64 kΩ
4642	464×10^2	46.4 kΩ

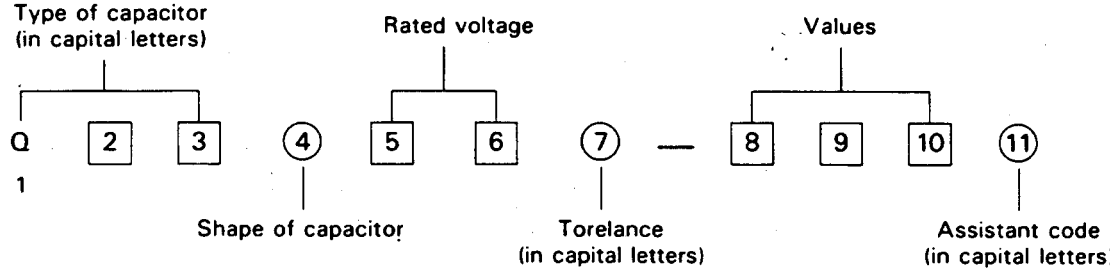
Shape of resistor (sixth digit)

Note: ■ indicates flame retardant resistor.

Shape of resistor \ Type of resistor	C	D	F	G	H	M	S	V	W	X
1										
2										
3										
4										
5									(L) type	
6										
7			Lug (B) type							
8			Lug (A) type				Chip			
9			Lug (C) type							

6.1.2 Fixed capacitor coding

Fixed capacitor part numbers are as follows.



Ceramic capacitors

Type of capacitor (first – third digits)		Shape of capacitor (fourth digit)				
Symbol	Characteristics	Mono-direction	Kink lead	Axial lead	Axial forming lead	Chip
QCC	Ceramic	1		4	5	
QCD	High capacitance					A
QCF	High capacitance	1,4	3			8,A
QCS	Temperature compensation	1	3	4	5	8,A
QCT	Temperature compensation	Special coding				8,A
QCV	Ceramic			1	3	
QCX	Ceramic			1	3	
QCY	High capacitance	1,4	3	6	7	8,A
QCZ	Special type	Special coding				
QCB	Ceramic			B	C	

Electrolytic capacitors

Type of capacitor (first-third digits)		Shape of capacitor (fourth digit)				
Symbol	Characteristics	Tubular	Mono-direction	Anti-stress	Forming	Snap-in
QEB	Low leakage		4	5	6	
QEC	Low leakage		4,8,A	9,B	6,C	
QEE	Tantalum (normal)		4	5	6	
	Tantalum (small)		8			
QEF	Chip tantalum	8 (chip type)				
QEG	Low impedance		4			
QEK	Miniature type		4	5	6	
QEL	Small type		4	5	6	7
QEM	Small type		4,A	5	6	
QEN	Non-polar	2	4	5	6	
QEP	Non-polar (small)		4,A	5,B	6,C	
QER	Miniature type		4	5	6	
QET	Small type	2	4,A	5,B	6,C	7
QEU	Small type		4	5	6	
QEV	Small type		4		6	7
QEW	Normal	2	4	5	6	7

Paper film capacitors

Type of capacitor (first – third digits)		Shape of capacitor (fourth digit)				
		Tubular	Normal		Flame retardant	
Symbol	Characteristics		Mono-direction	Kink lead	Mono-direction	Kink lead
QFA	Metalized polypropylene				7	
QFE	Metalized mylar				5	
QFF	Film mica		4			
QFG	Polypropylene film		4	8		
QFH	Metalized mylar	2	4	3	5,7	6
QFJ	Mylar (special)		4			
QFK	Metalized mylar (small)				5	
QFM	Mylar	2	4	3,7	5	6
QFN	Mylar (small)		4	3		
QFP	Polypropylene		4	3,8		
QFS	Polystyrole	2	4	3		
QFV	Thin film		4	8		
QFZ	Special type	Special coding				

Rated voltage (fifth and sixth digits)

Fifth digit \ Sixth digit	A	B	C	D	E	F	G	H	J	K	V	W	X
0						3.15	4.0		6.3				
1	10		16	20	25		40	50	63	80	35		
2	100	125	160	200	250	315	400	500	630		350	450	600
3	1000	1250		2000				5000					

Tolerance (seventh digit)

A	$^{+100}_{-10}$ %	M	±20 %
F	±1 %	N	±30 %
G	±2 %	P	$^{+100}_{-0}$ %
H	$^{+50}_{-10}$ %	R	$^{+30}_{-10}$ %
J	±5 %	X	$^{+40}_{-20}$ %
K	±10 %	Z	$^{+80}_{-20}$ %

Values (eighth – tenth digits)

Example : Values are in picofarads

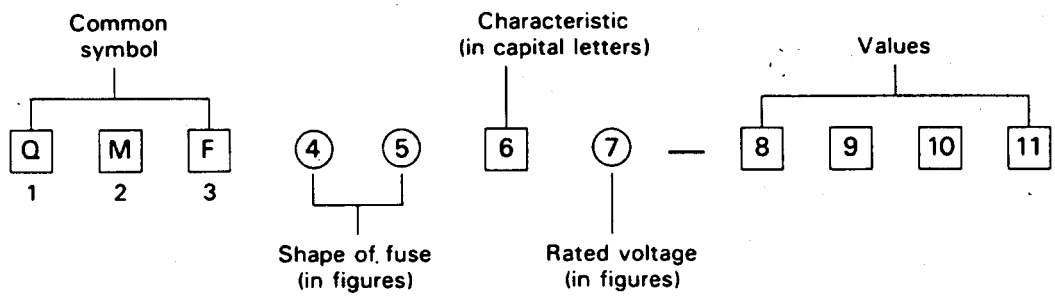
101	10×10^1 pF	100 pF
102	10×10^2 pF	1,000 pF (0.001 μF)
103	10×10^3 pF	10,000 pF (0.01 μF)
104	10×10^4 pF	100,000 pF (0.1 μF)
105	10×10^5 pF	1 μF
5R0		5.0 pF

Assistant code (eleventh digit)

G Small size
Z Lead taping
Y Lead taping

6.1.3 Fuse coding

Standard fuse part numbers are as follows.



Shape of fuse
(fourth and fifth digits)

51	φ5.2 × 20 mm
60	φ6.4 × 30 mm
61	φ6.35 × 31.8 mm
63	φ6.4 × 30 mm with lead wires
66	φ6.35 × 31.8 mm with lead wires
00	Special type

Rated voltage
(seventh digit)

1	AC125 V
2	AC250 V
3	0.1 – 1 A : AC250 V 1.25 – 6.3 A : AC125 V

Values
(eighth-tenth or eleventh digits)
example:

R63	0.63 A
1R0	1.0 A
2R5	2.5 A
100	10 A
R315	0.315 A
1R25	1.25 A

Characteristics (sixth digit)

Symbol	Fusing Current	Fusing Time	Remarks
A	210 %	Within 2 min.	Anti-rush type (for Europe)
	275 %	0.6 – 10 sec.	
	400 %	0.15 – 3 sec.	
	1000 %	0.02 – 0.3 sec.	
B	210 %	Within 30 min.	Regular fusible type (for SEMKO, Europe)
	275 %	0.05 – 2 sec.	
	400 %	0.01 – 0.3 sec.	
C	135 %	Within 1 hr.	Regular fusible type (for UL, Japan)
	200 %	Within 2 min.	
E	210 %	Within 2 min.	Anti-rush type (for Europe)
	275 %	0.6 – 10 sec.	
	400 %	0.15 – 3 sec.	
	1000 %	0.02 – 0.3 sec.	
J	135 %	Within 1 hr.	Anti-rush type
	200 %	Within 2 min.	
M	135 %	Within 1 hr.	Regular fusible type (for UL)
	200 %	Within 2 min.	
R	160 %	Within 1 hr.	Regular fusible type
	200 %	Within 2 min.	
S	160 %	Within 1 hr.	Anti-rush type
	200 %	Within 2 min.	
	700 % – 2000 %	Within 0.01 sec.	
U	135 %	Within 1 hr.	Anti-rush type (for UL)
	200 %	Within 2 min.	
	800 % – 2000 %	Within 0.01 sec.	

6.2 ELECTRICAL PARTS LIST

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
			**********
			* 5. POWER SUPPLY BOARD ASSEMBLY <01> <02> *
			**********
	PWBA	PGE10134A	SWITCHING REGULATOR BOARD ASSY
			-SWITCHING P.S BOARD ASSEMBLY <01>-
	PWBA1	PGE10134A1	SWITCHING BOARD ASSY
	IC1	STR-D1706	IC
	D1	10E6-F2	DIODE
	D2	10E6-F2	DIODE
	D3	10E6-F2	DIODE
	D4	10E6-F2	DIODE
	D5	RU1A	FR DIODE
	D6	RU1A	FR DIODE
	D7	AU01Z	FR DIODE
	OR	ERA48-02-T	FR DIODE
	D8	AU01Z	FR DIODE
	OR	ERA48-02-T	FR DIODE
⚠	D9	AU01Z	FR DIODE
⚠	D10	AU01Z	FR DIODE
	D11	F6P20F	FR DIODE
	OR	FML-12S	FR DIODE
	D12	F5KQ40B	BARRIER DIODE
	OR	FMB-24	BARRIER DIODE
	D13	AU01Z	FR DIODE
	OR	ERA48-02-T	FR DIODE
	D14	AU01Z	FR DIODE
	OR	ERA48-02-T	FR DIODE
	D15	RD16ES-T1B2	ZENER DIODE
	D28	AU01Z	FR DIODE
	R1	QRZ0078-2R2	WW RESISTOR
	R2	QRD181J-334	RESISTOR
	R3	QRD181J-334	RESISTOR
	R4	QRG029J-104	OMF RESISTOR
	R5	QRD161J-104	RESISTOR
	R6	QRG029J-201	OMF RESISTOR
	R7	QRZ0078-R39	WW RESISTOR
	R9	QVZ3507-101	V RESISTOR
	R11	QRD161J-333	RESISTOR
⚠	C1	QFZ9022-683	MM CAPACITOR
⚠	C7	QCZ9016-222M	CAPACITOR
⚠	OR	QCZ9048-222	CAPACITOR
⚠	C8	QCZ9016-222M	CAPACITOR
⚠	OR	QCZ9048-222	CAPACITOR
	C9	QED61HM-226	E CAPACITOR
	C10	QEZ0111-107	E CAPACITOR
	C11	QCY53AK-472	CAPACITOR
	C12	QCY43AK-121	CAPACITOR
	C13	QFL41HJ-222	M CAPACITOR
	C14	QFV41HJ-474	TF CAPACITOR
	C15	QEZ0108-187Z	E CAPACITOR
⚠	C17	QCZ9016-102K	CAPACITOR
⚠	OR	QCZ9047-102	CAPACITOR
⚠	C18	QCZ9016-102K	CAPACITOR
⚠	OR	QCZ9047-102	CAPACITOR
	C31	QEZ0125-228	E CAPACITOR
	C32	QEZ0106-338	E CAPACITOR
	C33	QEZ0104-476Z	E CAPACITOR
	C34	QEZ0107-476Z	E CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C35	QETB1EM-108	E CAPACITOR
	C36	QETB1EM-108	E CAPACITOR
	C37	QETB1AM-108	E CAPACITOR
	C38	QETC1JM-226	E CAPACITOR
	C39	QETC1HM-226	E CAPACITOR
	C40	QFL41HJ-102	M CAPACITOR
	C41	QFL41HJ-102	M CAPACITOR
	L11	PU56183-330	COIL
	L12	PU56183-330	COIL
	L13	PU56183-330	COIL
	L14	PU48530-101K	COIL
	L15	PU48530-101K	COIL
	L16	PU48530-8R2K	COIL
	L17	PU48530-8R2K	COIL
⚠	T1	PU60683	SWITCHING TRANSFORMER
	HS2	PU60798	HEAT SINK
⚠	HS3	PQ43231-1-1	HEAT SINK(3)
⚠	LF2	PU60347	LINE FILTER
	SLD1	PQ32558-1-1	SHIELD CASE(1)
	CN1	PU58844-9	CAP HOUSING
	CN2	PU58844-3	CAP HOUSING
			-REGULATOR BOARD ASSEMBLY <02>-
	PWBA2	PGE10134A2	REGULATOR BOARD ASSY
⚠	STK1	PU44457	STICKER
	IC2	BA10324	IC
	IC3	MC7805ACT	IC
	IC101	M54647L	IC
	Q11	2SD1764	TRANSISTOR
	OR	2SD1796	TRANSISTOR
	Q12	2SC1740S	TRANSISTOR
	Q13	2SD1764	TRANSISTOR
	OR	2SD1796	TRANSISTOR
	Q14	2SD1764	TRANSISTOR
	OR	2SD1796	TRANSISTOR
	Q15	2SD1764	TRANSISTOR
	OR	2SD1796	TRANSISTOR
	Q16	2SB1186(DE)	TRANSISTOR
⚠	Q17	2SA720	TRANSISTOR
	Q18	DTA114ES	TRANSISTOR
	D16	RD6.2ES-T1B3	ZENER DIODE
	D17	RD5.1ES-T1B2	ZENER DIODE
	D19	HZ6B1TE	DIODE
	OR	HZ6B1TJ	DIODE
	D20	RD13ES-T1B3	DIODE
	D21	HZS33EB1	ZENER DIODE
	D23	1SS133	DIODE
	OR	MA165	DIODE
	D24	1SS133	DIODE
	OR	MA165	DIODE
	D25	1SS133	DIODE
	OR	MA165	DIODE
	D26	1SS133	DIODE
	OR	MA165	DIODE
	D27	RD20ES-T1B2	ZENER DIODE
	OR	MTZ20BT-77	ZENER DIODE
	R14	QRD161J-222	RESISTOR
	R15	QRD161J-362	RESISTOR
	R16	QRD161J-472	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R17	QRD161J-102	RESISTOR
	R18	QRD161J-622	RESISTOR
	R19	QRD161J-472	RESISTOR
	R20	QRD161J-102	RESISTOR
	R21	QRD161J-153	RESISTOR
	R22	QRD161J-472	RESISTOR
	R23	QRD161J-102	RESISTOR
	R24	QRD161J-102	RESISTOR
	R25	QRD161J-153	RESISTOR
	R26	QVZ3244-222	V RESISTOR
	R27	QRD161J-223	RESISTOR
	R28	QRD161J-222	RESISTOR
	R29	QRD161J-103	RESISTOR
	R30	QRD161J-392	RESISTOR
	R31	QRD161J-102	RESISTOR
	R32	QRD161J-472	RESISTOR
	R33	QRD161J-331	RESISTOR
	R34	QRD161J-272	RESISTOR
⚠	R35	QRZ0077-220X	FUSIBLE RESISTOR
⚠	R36	QRZ0077-220X	FUSIBLE RESISTOR
	R43	QRD161J-392	RESISTOR
	R44	QRD181J-1R0	RESISTOR
	R45	QRD181J-1R0	RESISTOR
	R46	QRD181J-1R0	RESISTOR
	R47	QRD181J-1R0	RESISTOR
	R48	QRD181J-1R0	RESISTOR
	R49	QRD181J-1R0	RESISTOR
	R50	QRD181J-1R0	RESISTOR
	R51	QRD181J-1R0	RESISTOR
	R52	QRD181J-562	RESISTOR
	R53	QRD181J-562	RESISTOR
	C43	QFN31HJ-103	M CAPACITOR
	C44	QETC1CM-107	E CAPACITOR
	C45	QETC1HM-106	E CAPACITOR
	C46	QFN31HJ-103	M CAPACITOR
	C47	QFN31HJ-103	M CAPACITOR
	C48	QETC1CM-107	E CAPACITOR
	C49	QFN31HJ-103	M CAPACITOR
	C50	QFN31HJ-103	M CAPACITOR
	C51	QETC1AM-107	E CAPACITOR
	C52	QETC1HM-476	E CAPACITOR
	C53	QETC1CM-107	E CAPACITOR
	C54	QETC1HM-106	E CAPACITOR
	C55	QFN31HJ-103	M CAPACITOR
	C56	QFN31HJ-103	M CAPACITOR
	C57	QETC1AM-107	E CAPACITOR
	C58	QETC1HM-226	E CAPACITOR
	C59	QETC1HM-226	E CAPACITOR
	C60	QETC1HM-226	E CAPACITOR
	C101	QETC1EM-476	E CAPACITOR
	C102	QETC1HM-105	E CAPACITOR
	L18	PU53618-101J	COIL
	A01	PGZ00760	AC INLET
	A02	PU52931	CONNECTOR COVER
⚠	BKT1	PRD20225	TRANS BRACKET
⚠	BKT2	PRD42862-01-01	EARTH BRACKET
⚠	HD1	PU57505	FUSE CLIP, X2
⚠	HD2	A74316	TAB, X2
	HS1	PQ43701-1-1	HEAT SINK
⚠	HS2	PQ43230	HEAT SINK(2)
⚠	LF1	PU60020	LINE FILTER

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	SCW1	DPSP4008Z	SCREW
	SCW2	DPSP3008Z	SCREW, X2
	SCW3	DPSP3012Z	SCREW, X2
	SCW4	SDST3006Z	SCREW, X3
	SCW5	SBSB3008Z	SCREW, X3
	SCW6	SBSB3006Z	SCREW, X2
	SCW7	LPSP4008Z	SCREW
	SLD2	PQ32071	SHILD CASE(2)
⚠	SPC1	PQ43773	SHEET(AC)
	TP1	PU55774	TEST PIN, X4
	CN5	PU58844-102R	CAP HOUSING
	CN6	PU58844-107	CAP HOUSING
	CN7	PU59555-105	CAP HOUSING
	CN8	PU59555-108	CAP HOUSING
	CN9	PU58844-103R	CAP HOUSING
	CN10	PU58844-103R	CAP HOUSING
	CN11	PU58844-103Y	CAP HOUSING
	CN12	PU59555-108	CAP HOUSING
⚠	CP1	ICP-F25	CIRCUIT PROTECTOR
⚠	CP2	ICP-F25	CIRCUIT PROTECTOR
⚠	CP3	ICP-F20	CIRCUIT PROTECTOR
⚠	CP4	ICP-F20	CIRCUIT PROTECTOR
	CP101	ICP-F25	CIRCUIT PROTECTOR
⚠	F1	QMF51E2-1R25	FUSE

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* 6. MECHACON BOARD ASSEMBLY <04> *
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	PWBA	PGE10135A	MECHACON BOARD ASSY
	IC1	M50938E-324SP	IC
	IC2	TA8405S	IC
	IC4	BA6222	IC
	IC5	M50255P	IC
	Q1	2SD1468S(RS)	TRANSISTOR
	D1	HZS4.3EB2	ZENER DIODE
	D2	MA165	DIODE
		OR 1SS133	DIODE
	D3	MA165	DIODE
		OR 1SS133	DIODE
	D4	MA165	DIODE
		OR 1SS133	DIODE
	D5	HZS7.5EB2	ZENER DIODE
	D6	MA165	DIODE
		OR 1SS133	DIODE
	D7	MA165	DIODE
		OR 1SS133	DIODE
	D8	MA165	DIODE
		OR 1SS133	DIODE
	D9	MA165	DIODE
		OR 1SS133	DIODE
	R1	QRD161J-152	RESISTOR
	R2	QRD161J-332	RESISTOR
	R3	QRD161J-122	RESISTOR
	R4	QRD161J-823	RESISTOR
	R5	QRD161J-471	RESISTOR
	R6	QRD161J-102	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R7	QRD161J-102	RESISTOR
	R8	QRD161J-102	RESISTOR
	R9	QRD161J-103	RESISTOR
	R10	QRD161J-472	RESISTOR
	R11	QRD161J-472	RESISTOR
	R12	QRD161J-472	RESISTOR
	R13	QRD161J-472	RESISTOR
	R14	QRD161J-472	RESISTOR
	R15	QRD161J-472	RESISTOR
	R16	QRD161J-103	RESISTOR
	R17	QRD161J-103	RESISTOR
	R18	QRD161J-103	RESISTOR
	R19	QRD161J-333	RESISTOR
	R20	QRD161J-472	RESISTOR
	R21	QRD161J-472	RESISTOR
	R22	QRD161J-472	RESISTOR
	R23	QRD161J-472	RESISTOR
	R24	QRD161J-472	RESISTOR
	R25	QRD161J-472	RESISTOR
	R26	QRD161J-472	RESISTOR
	R27	QRD161J-472	RESISTOR
	R28	QRD161J-472	RESISTOR
	R29	QRD161J-472	RESISTOR
	R30	QRD161J-124	RESISTOR
	R31	QRD161J-124	RESISTOR
	R32	QRD161J-333	RESISTOR
	R33	QRD161J-821	RESISTOR
	R34	QRD161J-331	RESISTOR
	R35	QRD161J-822	RESISTOR
	R36	QRD161J-103	RESISTOR
	R37	QRD161J-472	RESISTOR
	R38	QRD161J-472	RESISTOR
	R39	QRD161J-333	RESISTOR
	R40	QRD161J-333	RESISTOR
	R41	QRD161J-105	RESISTOR
	R42	QRD161J-561	RESISTOR
	R43	QRD161J-561	RESISTOR
	RA1	QRB035J-103C	RESISTOR ARRAY
	RA2	QRB045J-472C	RESISTOR ARRAY
	RA3	QRB045J-103C	RESISTOR ARRAY
	B1	QRD182J-0R0	RESISTOR
	C1	QCFB1EZ-223	CAPACITOR
	C2	QETC1EM-335	E CAPACITOR
	C5	QETC1EM-106	E CAPACITOR
	C6	QETC1EM-106	E CAPACITOR
	C7	QCFB1EZ-223	CAPACITOR
	C8	QETC1EM-475	E CAPACITOR
	C9	QCFB1EZ-223	CAPACITOR
	C10	QCC11CK-104	CAPACITOR
	C11	QCXB1CM-222	CAPACITOR
	C12	QCXB1CM-222	CAPACITOR
	L1	PU53223-R22G	COIL
	CF1	PU60414	CERAMIC FILTER
	OR	PU60942-Z	CERAMIC FILTER
⚠	K1	PU60281-5	FERRITE BEADS
⚠	K2	PU60281-5	FERRITE BEADS
	SKT1	PGZ01001	IC SOCKET
	WR1	PW30112-L0AF6AH	PARALLEL WIRE
	OR	PW30117-L0AG6AH	PARALLEL WIRE
	CN1	PU59934-17	WIRE HOLDER

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	CN2	PU58844-6	CAP HOUSING
	CN4	PU58930-14	CAP HOUSING
	CN5	PU58930-12	CAP HOUSING
	CN6	PU59555-10	CAP HOUSING
	CN9	PU59555-8	CAP HOUSING
	CN12	PU58844-6	CAP HOUSING
	CN13	PU58844-3	CAP HOUSING
	CN14	PU58928-18	CAP HOUSING
	CN15	PU58928-13	CAP HOUSING
	CN16	PU58928-16	CAP HOUSING
	CN17	PU58928-15	CAP HOUSING
	CN18	PU59555-8	CAP HOUSING

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* 7. VIDEO BOARD ASSEMBLY <05> *
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	PWBA	PGE10136A	VIDEO BOARD ASSY
	CL1	PU56729-2	WIRE CLAMP
	CL2	PU55379	MINI CLAMP
	HN1	PU58018-1-2	PWB HINGE, X2
	SPC1	PU60010	SPACER, X4
	CN2	PU58844-6	CAP HOUSING
	CN3	PU58844-3	CAP HOUSING
	CN4	PU59555-10	CAP HOUSING
	CN5	PU58844-8	CAP HOUSING
	CN6	PU58844-4	CAP HOUSING
	CN7	PU58844-5	CAP HOUSING
	CN8	PU58844-5	CAP HOUSING
	CN9	PU58844-6	CAP HOUSING
	CN10	PU58844-4	CAP HOUSING
	CN12	PU59555-5	CAP HOUSING
		-Y SECTION-	
	IC1	PB20291A	Y MODULE
	IC2	NJM2234D	IC
	IC3	M51288SP	IC
	IC4	HA118070	IC
	IC5	NJM2233AD	IC
	IC6	PB20290A-02	JOG MODULE(JA059)
	IC7	M52055P	IC
	IC8	NJM2233AD	IC
	IC9	PB20285A	Y MODULE
	IC10	PB20298A	Y MODULE
	IC11	PB20286A-02	YNR MODULE
	IC12	VC2063S	IC
	IC13	TC74HC04AP	IC
	OR	MC74HC04AN	IC
	IC14	AN6041	IC
	IC15	BA7021	IC
	IC16	BU4066B	IC
	Q1	2SC1740S(QRS)	TRANSISTOR
	Q2	DTC124ES	TRANSISTOR
	Q3	DTC124ES	TRANSISTOR
	Q4	2SC1740S(QRS)	TRANSISTOR
	Q5	2SC1740S(QRS)	TRANSISTOR
	Q6	DTC124ES	TRANSISTOR
	Q7	DTC124ES	TRANSISTOR
	Q8	2SA933S	TRANSISTOR
	Q9	2SA933S	TRANSISTOR
	Q10	2SC1740S(QRS)	TRANSISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q11	2SA933S	TRANSISTOR
	Q12	2SC1740S(QRS)	TRANSISTOR
	Q13	2SC1740S(QRS)	TRANSISTOR
	Q14	2SA933S	TRANSISTOR
	Q15	2SA933S	TRANSISTOR
	Q16	2SA933S	TRANSISTOR
	Q17	DTC124ES	TRANSISTOR
	Q18	2SK381(C)	FE TRANSISTOR
	Q19	2SA933S	TRANSISTOR
	Q20	2SC1740S(QRS)	TRANSISTOR
	Q21	2SC1740S(QRS)	TRANSISTOR
	Q22	DTC144ES	TRANSISTOR
	Q23	2SA933S	TRANSISTOR
	Q24	2SA933S	TRANSISTOR
	Q25	2SA933S	TRANSISTOR
	Q26	2SC1740S(QRS)	TRANSISTOR
	Q27	DTC124ES	TRANSISTOR
	Q28	DTC124ES	TRANSISTOR
	Q29	DTA124ES	TRANSISTOR
	Q30	2SC1740S(QRS)	TRANSISTOR
	Q31	2SC1740S(QRS)	TRANSISTOR
	Q32	DTA124ES	TRANSISTOR
	Q33	2SA933S	TRANSISTOR
	Q34	2SC1740S(RS)	TRANSISTOR
	Q35	2SB851Q,R	TRANSISTOR
	Q36	DTA124ES	TRANSISTOR
	Q37	DTA124ES	TRANSISTOR
	Q38	DTC124ES	TRANSISTOR
	Q39	2SC3313CTA	TRANSISTOR
	Q40	2SC3313CTA	TRANSISTOR
	Q41	2SC1740S(QRS)	TRANSISTOR
	Q42	2SC2647C	TRANSISTOR
	Q43	2SC2647C	TRANSISTOR
	Q45	2SC1740S(QRS)	TRANSISTOR
	Q46	2SA933S	TRANSISTOR
	Q47	2SC1740S(QRS)	TRANSISTOR
	Q48	2SC1740S(QRS)	TRANSISTOR
	Q49	2SA933S	TRANSISTOR
	Q50	2SA933S	TRANSISTOR
	Q51	2SA933S	TRANSISTOR
	Q52	2SC1740S(QRS)	TRANSISTOR
	Q53	DTC124ES	TRANSISTOR
	Q54	DTC144ES	TRANSISTOR
	Q55	2SA933S	TRANSISTOR
	D1	1SS133	DIODE
		OR MA165	DIODE
	D2	1SS133	DIODE
		OR MA165	DIODE
	D3	1SS133	DIODE
		OR MA165	DIODE
	D4	1SS133	DIODE
		OR MA165	DIODE
	D5	1SS133	DIODE
		OR MA165	DIODE
	D6	1SS133	DIODE
		OR MA165	DIODE
	D7	1SS133	DIODE
		OR MA165	DIODE
	D8	1SS133	DIODE
		OR MA165	DIODE
	D10	1SS133	DIODE
		OR MA165	DIODE
	D11	1SS133	DIODE
		OR MA165	DIODE
	D12	1SS133	DIODE
		OR MA165	DIODE
	D13	1SS133	DIODE

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
		OR MA165	DIODE
	D16	1SS133	DIODE
		OR MA165	DIODE
	D17	1SS133	DIODE
		OR MA165	DIODE
	D18	1SS133	DIODE
		OR MA165	DIODE
	D20	0A90UF	DIODE
	D21	0A90UF	DIODE
	D22	1SS133	DIODE
		OR MA165	DIODE
	D23	1SS133	DIODE
		OR MA165	DIODE
	D24	1SS133	DIODE
		OR MA165	DIODE
	D26	1SS133	DIODE
		OR MA165	DIODE
	D27	1SS133	DIODE
		OR MA165	DIODE
	D28	1SS133	DIODE
		OR MA165	DIODE
	D29	1SS133	DIODE
		OR MA165	DIODE
	D31	1SS133	DIODE
		OR MA165	DIODE
	D32	1SS133	DIODE
		OR MA165	DIODE
	D34	RD9.1ES-T1B2	ZENER DIODE
	R1	QRD161J-562	RESISTOR
	R2	QRD161J-822	RESISTOR
	R3	QRD161J-223	RESISTOR
	R4	QRD161J-182	RESISTOR
	R5	QRD161J-821	RESISTOR
	R6	QRD161J-681	RESISTOR
	R7	QRD161J-223	RESISTOR
	R8	QRD161J-273	RESISTOR
	R9	QRD161J-223	RESISTOR
	R10	QRD161J-681	RESISTOR
	R11	QRD161J-331	RESISTOR
	R12	QRD161J-331	RESISTOR
	R13	QRD161J-475	RESISTOR
	R14	QRD161J-102	RESISTOR
	R15	QRD161J-103	RESISTOR
	R16	QRD161J-222	RESISTOR
	R17	QRD161J-821	RESISTOR
	R18	QRD161J-102	RESISTOR
	R19	QRD161J-222	RESISTOR
	R20	QRD161J-122	RESISTOR
	R21	QRD161J-102	RESISTOR
	R22	QRD161J-681	RESISTOR
	R23	QRD161J-102	RESISTOR
	R24	QRD161J-122	RESISTOR
	R25	QRD161J-562	RESISTOR
	R26	QRD121J-181	RESISTOR
	R27	QVZ3518-102	V RESISTOR
	R28	QRD161J-471	RESISTOR
	R29	QRD161J-821	RESISTOR
	R30	QRD161J-561	RESISTOR
	R31	QRD161J-471	RESISTOR
	R32	QRD161J-153	RESISTOR
	R33	QRD161J-561	RESISTOR
	R34	QRD161J-182	RESISTOR
	R35	QRD161J-102	RESISTOR
	R36	QRD161J-221	RESISTOR
	R37	QRD161J-271	RESISTOR
	R38	QRD161J-471	RESISTOR
	R39	QRD161J-152	RESISTOR
	R40	QRD161J-152	RESISTOR

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#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R41	QRD161J-562	RESISTOR
	R42	QVZ3518-103	V RESISTOR
	R43	QRD161J-103	RESISTOR
	R44	QRD161J-331	RESISTOR
	R45	QRD161J-331	RESISTOR
	R46	QRD161J-331	RESISTOR
	R47	QRD161J-152	RESISTOR
	R48	QRD161J-391	RESISTOR
	R49	QRD161J-152	RESISTOR
	R50	QRD161J-102	RESISTOR
	R51	QRD161J-153	RESISTOR
	R52	QRD161J-683	RESISTOR
	R53	QRD161J-122	RESISTOR
	R54	QRD161J-152	RESISTOR
	R55	QRD161J-391	RESISTOR
	R57	QVZ3518-151	V RESISTOR
	R58	QRD161J-241	RESISTOR
	R60	QRD161J-273	RESISTOR
	R61	QRD161J-223	RESISTOR
	R62	QRD161J-222	RESISTOR
	R63	QRD161J-102	RESISTOR
	R64	QRD161J-102	RESISTOR
	R65	QRD161J-152	RESISTOR
	R66	QRD161J-561	RESISTOR
	R67	QRD161J-821	RESISTOR
	R68	QRD161J-471	RESISTOR
	R69	QRD161J-123	RESISTOR
	R70	QRD161J-473	RESISTOR
	R71	QRD161J-122	RESISTOR
	R72	QRD161J-102	RESISTOR
	R73	QRD161J-822	RESISTOR
	R74	QRD161J-182	RESISTOR
	R75	QVZ3518-102	V RESISTOR
	R76	QRD161J-272	RESISTOR
	R77	QRD161J-332	RESISTOR
	R78	QRD161J-183	RESISTOR
	R79	QRD161J-222	RESISTOR
	R80	QRD161J-681	RESISTOR
	R81	QRD161J-223	RESISTOR
	R82	QRD161J-393	RESISTOR
	R83	QRD161J-153	RESISTOR
	R84	QRD161J-154	RESISTOR
	R85	QRD161J-124	RESISTOR
	R87	QRD161J-394	RESISTOR
	R88	QRD161J-475	RESISTOR
	R89	QRD161J-562	RESISTOR
	R91	QVZ3518-473	V RESISTOR
	R92	QVZ3518-473	V RESISTOR
	R93	QRD161J-223	RESISTOR
	R94	QRD161J-821	RESISTOR
	R95	QVZ3518-102	V RESISTOR
	R96	QRD161J-102	RESISTOR
	R97	QRD161J-103	RESISTOR
	R98	QRD161J-223	RESISTOR
	R99	QRD161J-681	RESISTOR
	R100	QRD161J-223	RESISTOR
	R101	QRD161J-153	RESISTOR
	R102	QRD161J-561	RESISTOR
	R103	QVZ3518-102	V RESISTOR
	R104	QRD161J-102	RESISTOR
	R105	QRD161J-331	RESISTOR
	R106	QRD161J-102	RESISTOR
	R107	QVZ3518-151	V RESISTOR
	R108	QVZ3518-473	V RESISTOR
	R109	QRD161J-223	RESISTOR
	R110	QVZ3518-473	V RESISTOR
	R111	QRD161J-223	RESISTOR
	R112	QRD161J-391	RESISTOR
	R113	QRD161J-391	RESISTOR
	R114	QRD161J-391	RESISTOR
	R115	QRD161J-391	RESISTOR
	R116	QRD161J-391	RESISTOR
	R117	QRD161J-223	RESISTOR
	R118	QVZ3520-223	V RESISTOR
	R119	QVZ3520-472	V RESISTOR
	R120	QRD161J-102	RESISTOR
	R122	QRD161J-102	RESISTOR
	R123	QRD161J-102	RESISTOR
	R124	QRD161J-102	RESISTOR
	R125	QRD161J-102	RESISTOR
	R126	QRD161J-102	RESISTOR
	R127	QRD161J-472	RESISTOR
	R128	QRD161J-562	RESISTOR
	R129	QRD161J-103	RESISTOR
	R130	QRD161J-393	RESISTOR
	R131	QRD161J-272	RESISTOR
	R132	QRD161J-104	RESISTOR
	R133	QRD161J-104	RESISTOR
	R135	QRD161J-473	RESISTOR
	R136	QRD161J-393	RESISTOR
	R137	QRD161J-153	RESISTOR
	R138	QRD161J-561	RESISTOR
	R139	QRD161J-182	RESISTOR
	R140	QRD161J-271	RESISTOR
	R141	QRD161J-223	RESISTOR
	R142	QRD161J-392	RESISTOR
	R145	QRD161J-562	RESISTOR
	R146	QRD161J-682	RESISTOR
⚠	R147	QRD121J-680	RESISTOR
	R148	QRD161J-271	RESISTOR
	R149	QRD161J-101	RESISTOR
	R150	QRD161J-101	RESISTOR
	R151	QRD161J-393	RESISTOR
	R152	QRD161J-822	RESISTOR
	R153	QRD161J-122	RESISTOR
	R154	QRD161J-271	RESISTOR
	R155	QRD161J-222	RESISTOR
	R156	QRD161J-221	RESISTOR
	R157	QRD161J-221	RESISTOR
	R161	QRD161J-222	RESISTOR
	R163	QVZ3518-681	V RESISTOR
	R164	QRD161J-102	RESISTOR
	R165	QRD161J-102	RESISTOR
	R166	QRD161J-151	RESISTOR
	R167	QRD161J-102	RESISTOR
	R168	QRD161J-102	RESISTOR
	R169	QRD161J-223	RESISTOR
	R170	QRD161J-153	RESISTOR
	R171	QRD161J-121	RESISTOR
	R172	QRD161J-101	RESISTOR
	R173	QRD161J-472	RESISTOR
	R174	QRD161J-102	RESISTOR
	R175	QRD161J-331	RESISTOR
	R176	QRD161J-392	RESISTOR
	R177	ERT-D2FHL332S	THERMISTOR
	R178	QRD161J-272	RESISTOR
	R179	QRD161J-223	RESISTOR
	R180	QRD161J-122	RESISTOR
	R181	QRD161J-562	RESISTOR
	R182	QRD161J-101	RESISTOR
	R183	QRD161J-101	RESISTOR
	R184	QRD161J-272	RESISTOR
	R185	QRD161J-471	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R186	QRD161J-391	RESISTOR
	R187	QRD161J-621	RESISTOR
	R188	QRD161J-392	RESISTOR
	R189	QRD161J-181	RESISTOR
	R190	QRD161J-821	RESISTOR
	R191	QRD161J-222	RESISTOR
	R192	ERT-D2FGL102S	THERMISTOR
	R193	QRD161J-473	RESISTOR
	R194	QRD161J-473	RESISTOR
	R195	QRD161J-561	RESISTOR
	R196	QRD161J-561	RESISTOR
	R197	QVZ3520-471	V RESISTOR
	R198	QRD161J-103	RESISTOR
	R199	QRD161J-121	RESISTOR
	R200	QRD161J-102	RESISTOR
	R201	QRD161J-332	RESISTOR
	R204	QRD161J-102	RESISTOR
	R205	QRD161J-102	RESISTOR
⚠	R206	QRD121J-680	RESISTOR
	R209	QRD161J-474	RESISTOR
	R210	QRD161J-101	RESISTOR
	R211	QRD161J-101	RESISTOR
	R212	QRD161J-122	RESISTOR
	B1	QRD182J-0R0	RESISTOR, X2
	B2	QRD161J-0R0	RESISTOR
	C1	QCSB1HJ-560	CAPACITOR
	C2	QCBB1HJ-101	CAPACITOR
	C3	QCBB1HJ-181	CAPACITOR
	C4	QETC1EM-475	E CAPACITOR
	C5	QETC1HM-224	E CAPACITOR
	C6	QETC0JM-337	E CAPACITOR
	C7	QCVB1CN-103	CAPACITOR
	C8	QCSB1HJ-560	CAPACITOR
	C9	QETC1HM-105	E CAPACITOR
	C10	QCVB1CN-103	CAPACITOR
	C11	QCSB1HJ-680	CAPACITOR
	C13	QCVB1CN-103	CAPACITOR
	C14	QETC1HM-225	E CAPACITOR
	C15	QCZ0208-104	M CAPACITOR
	C16	QCBB1HJ-181	CAPACITOR
	C17	QCBB1HJ-391	CAPACITOR
	C18	QETC1HM-225	E CAPACITOR
	C19	QETC1CM-106	E CAPACITOR
	C20	QETC1EM-335	E CAPACITOR
	C21	QCVB1CN-103	CAPACITOR
	C22	QCVB1CN-103	CAPACITOR
	C23	QETC1CM-106	E CAPACITOR
	C24	QCVB1CN-103	CAPACITOR
	C25	QCVB1CN-103	CAPACITOR
	C26	QCVB1CN-103	CAPACITOR
	C27	QCVB1CN-103	CAPACITOR
	C28	QEK61EM-475	E CAPACITOR
	C29	QETC1EM-475	E CAPACITOR
	C30	QCVB1CN-103	CAPACITOR
	C31	QEK61EM-475	E CAPACITOR
	C32	QEK61EM-475	E CAPACITOR
	C33	QER61AM-226	E CAPACITOR
	C34	QETC0JM-337	E CAPACITOR
	C35	QCVB1CN-103	CAPACITOR
	C36	QEP61EM-475	NP E CAPACITOR
	C37	QER61EM-475	E CAPACITOR
	C38	QCVB1CN-103	CAPACITOR
	C40	QEK60JM-476	E CAPACITOR
	C41	QCVB1CN-103	CAPACITOR
	C42	QETC1CM-106	E CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C43	QEK61CM-106	E CAPACITOR
	C44	QCVB1CN-103	CAPACITOR
	C45	QCVB1CN-103	CAPACITOR
	C46	QCVB1CN-103	CAPACITOR
	C47	QETC1CM-106	E CAPACITOR
	C48	QETC1CM-106	E CAPACITOR
	C49	QETC1CM-106	E CAPACITOR
	C50	QCVB1CN-103	CAPACITOR
	C51	QCSB1HJ-390	CAPACITOR
	C52	QCVB1CN-103	CAPACITOR
	C53	QETC1CM-476	E CAPACITOR
	C54	QETC1CM-106	E CAPACITOR
	C55	QEK61CM-106	E CAPACITOR
	C56	QEK61CM-106	E CAPACITOR
	C57	QEK61CM-106	E CAPACITOR
	C58	QEK61CM-106	E CAPACITOR
	C60	QEK61CM-476	E CAPACITOR
	C61	QCVB1CN-103	CAPACITOR
	C62	QCSB1HJ-470	CAPACITOR
	C63	QCVB1CN-103	CAPACITOR
	C64	QCSB1HJ-470	CAPACITOR
	C65	QEK60JM-476	E CAPACITOR
	C66	QEK61CM-106	E CAPACITOR
	C67	QCVB1CN-103	CAPACITOR
	C68	QEK61CM-106	E CAPACITOR
	C69	QCVB1CN-103	CAPACITOR
	C70	QEK61CM-476	E CAPACITOR
	C74	QCSB1HJ-560	CAPACITOR
	C76	QETC0JM-476	E CAPACITOR
	C77	QETC1EM-335	E CAPACITOR
	C78	QETC0JM-476	E CAPACITOR
	C79	QETC1CM-106	E CAPACITOR
	C80	QETC1CM-106	E CAPACITOR
	C81	QETC0JM-476	E CAPACITOR
	C82	QETC1EM-475	E CAPACITOR
	C83	QETC1EM-475	E CAPACITOR
	C84	QCBB1HJ-121	CAPACITOR
	C85	QCSB1HJ-560	CAPACITOR
	C86	QEK61CM-106	E CAPACITOR
	C87	QCSB1HJ-150	CAPACITOR
	C88	QEK61HM-225	E CAPACITOR
	C89	QEK61CM-106	E CAPACITOR
	C90	QEK51CM-476	E CAPACITOR
	C91	QCVB1CN-103	CAPACITOR
	C92	QETC1CM-106	E CAPACITOR
	C93	QCBB1HJ-101	CAPACITOR
	C94	QCSB1HJ-270	CAPACITOR
	C95	QCSB1HJ-180	CAPACITOR
	C96	QETC1HM-335	E CAPACITOR
	C97	QCBB1HJ-151	CAPACITOR
	C98	QETC1HM-105	E CAPACITOR
	C99	QED60JM-127	E CAPACITOR
	C100	QCVB1CN-103	CAPACITOR
	C101	QETC0JM-337	E CAPACITOR
	C102	QCSB1HJ-120	CAPACITOR
	C103	QCBB1HJ-121	CAPACITOR
	C104	QCBB1HJ-121	CAPACITOR
	C105	QCVB1CN-103	CAPACITOR
	C106	QCVB1CN-103	CAPACITOR
	C107	QCVB1CN-103	CAPACITOR
	C108	QCVB1CN-103	CAPACITOR
	C109	QCBB1HJ-101	CAPACITOR
	C110	QCVB1CN-103	CAPACITOR
	C111	QETC0JM-476	E CAPACITOR
	C112	QCVB1CN-103	CAPACITOR
	C113	QCBB1HJ-101	CAPACITOR
	C114	QCVB1CN-103	CAPACITOR

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#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C115	QCVB1CN-103	CAPACITOR
	C116	QCBB1HJ-101	CAPACITOR
	C117	QCVB1CN-103	CAPACITOR
	C118	QCVB1CN-103	CAPACITOR
	C119	QCVB1CN-103	CAPACITOR
	C120	QCVB1CN-103	CAPACITOR
	C121	QEK61CM-106	E CAPACITOR
	C122	QCVB1CN-103	CAPACITOR
	C123	QETC1HM-105	E CAPACITOR
	C124	QCVB1CN-103	CAPACITOR
	C125	QETC1CM-476	E CAPACITOR
	C126	QEK61AM-476	E CAPACITOR
	C127	QCVB1CN-103	CAPACITOR
	C130	QETC0JM-476	E CAPACITOR
	C131	QCVB1CN-103	CAPACITOR
	C132	QETC1AM-476	E CAPACITOR
	C133	QCVB1CN-103	CAPACITOR
	C134	QCVB1CN-103	CAPACITOR
	C135	QETC1CM-476	E CAPACITOR
	C136	QCVB1CN-103	CAPACITOR
	C137	QETC1CM-476	E CAPACITOR
	C138	QCVB1CN-103	CAPACITOR
	C139	QCVB1CN-103	CAPACITOR
	C140	QETC0JM-476	E CAPACITOR
	C141	QCVB1CN-103	CAPACITOR
	C142	QEN61HM-105	NP E CAPACITOR
	C143	QETC1HM-104	E CAPACITOR
	C144	QCVB1CN-103	CAPACITOR
	C146	QCSB1HJ-220	CAPACITOR
	C147	QCBB1HJ-101	CAPACITOR
	C148	QCVB1CN-103	CAPACITOR
	C149	QCSB1HJ-560	CAPACITOR
	C150	QCSB1HJ-390	CAPACITOR
	C151	QCVB1CN-103	CAPACITOR
	C152	QEK61CM-336	E CAPACITOR
	C153	QCSB1HK-5R6	CAPACITOR
	C154	QCSB1HJ-390	CAPACITOR
	C155	QCSB1HJ-120	CAPACITOR
	C156	QCSB1HJ-220	CAPACITOR
	C157	QCBB1HJ-181	CAPACITOR
	C159	QCVB1CN-103	CAPACITOR
	C160	QCBB1HJ-151	CAPACITOR
	C162	QEK61CM-106	E CAPACITOR
	C163	QEK61CM-106	E CAPACITOR
	C165	QEK61CM-476	E CAPACITOR
	C166	QCVB1CN-103	CAPACITOR
	C167	QETC1CM-107	E CAPACITOR
	C168	QCVB1CN-103	CAPACITOR
	C169	QETC1CM-106	E CAPACITOR
	C171	QCVB1CN-103	CAPACITOR
	C172	QCVB1CN-103	CAPACITOR
	C173	QCT25CH-470	CAPACITOR
	C174	QCBB1HJ-471	CAPACITOR
	C175	QCC31CJ-563	CAPACITOR
	C178	QCVC1CN-103	CAPACITOR
	C179	QCSB1HJ-470	CAPACITOR
	C180	QCSB1HJ-220	CAPACITOR
	C183	QCSB1HJ-390	CAPACITOR
	C184	QCVB1CN-103	CAPACITOR
	C185	QCSB1HK-3R9	CAPACITOR
	L1	PU59152-220J	COIL
	L2	PU48530-101K	COIL
	L3	PU48530-101K	COIL
	L4	PU48530-101K	COIL
	L5	PU48530-101K	COIL
	L6	PU48530-101K	COIL

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	L7	PU48530-101K	COIL
	L8	PU48530-101K	COIL
	L9	PU48530-101K	COIL
	L10	PU48530-101K	COIL
	L11	PU48530-101K	COIL
	L12	PU48530-101K	COIL
	L13	PU59152-220J	COIL
	L14	PU48530-101K	COIL
	L15	PU48530-101K	COIL
	L16	PU59152-820J	COIL
	L17	PU48530-101K	COIL
	L18	PU59152-560J	COIL
	L19	PU48530-101K	COIL
	L20	PU48530-471K	COIL
	L21	PU59152-150J	COIL
	L22	PU48530-101K	COIL
	L23	PU48530-471K	COIL
	L24	PU48530-560J	COIL
	L25	PU59152-221J	COIL
	L26	PU59152-560J	COIL
	L27	PU48530-101K	COIL
	L28	PU48530-101K	COIL
	L29	PU48530-101K	COIL
	L30	PU60165-8R2G	COIL
	L31	PU60165-8R2G	COIL
	L32	PU48530-101K	COIL
	L33	PU59152-180J	COIL
	L35	PU59152-1R0K	COIL
	L36	PU59152-1R0K	COIL
	L38	PU59152-5R6J	COIL
	L39	PU48530-101K	COIL
	L40	PU59152-820J	COIL
	L41	PU59152-470J	COIL
	L42	PU59152-221J	COIL
	L43	PU48530-101K	COIL
	L44	PU59152-151J	COIL
	EQ1	PU60099	EQUALIZER
	EQ2	PU60809	EQUALIZER
	EQ3	PU60810	EQUALIZER
	LPF1	PU60813	LOW & BAND PASS FILTER
	LPF2	PU60737	LOW PASS FILTER
	LPF3	PU60806-2	LOW PASS FILTER
	BPF2	PU60921	BAND PASS FILTER
	BPF3	PU60808-2	BAND PASS FILTER
	DL1	PU60815	DELAY LINE
	DL3	PU61081	DELAY LINE
⚠	X101	PU60438	CRYSTAL RESONATOR
	T1	PU60814	COIL
	T2	PU60814	COIL
	TP6	PU56008	TEST-PIN
	TP10	PU57545	TEST-PIN, X38
		-COLOR SECTION-	
	IC301	PB20287A-03	CHROMA MODULE (JA056-01)
	IC302	PB20289A-02	JOG MODULE (JA058)
	IC303	NJM2233AD	IC
	IC401	BA7106LS	IC
	OR	XRA7106LS	IC
	Q301	2SA933S	TRANSISTOR
	Q302	DTC144WS	TRANSISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q303	DTA124ES	TRANSISTOR
	Q304	2SC1740S(QRS)	TRANSISTOR
	Q305	2SC1740S(QRS)	TRANSISTOR
	Q307	2SC2021Q,R,S	TRANSISTOR
	Q308	2SA937	TRANSISTOR
	Q309	2SC1740S(QRS)	TRANSISTOR
	Q310	DTC124ES	TRANSISTOR
	Q311	2SC1740S(QRS)	TRANSISTOR
	Q312	DTC114ES	TRANSISTOR
	Q313	DTC114ES	TRANSISTOR
	Q314	DTC144WS	TRANSISTOR
	Q315	2SC1740S(QRS)	TRANSISTOR
	Q316	2SA933S	TRANSISTOR
	Q317	2SC1740S(QRS)	TRANSISTOR
	Q318	2SC1740S(QRS)	TRANSISTOR
	Q319	2SC1740S(QRS)	TRANSISTOR
	Q320	DTC124ES	TRANSISTOR
	Q323	DTC124ES	TRANSISTOR
	Q324	DTC124ES	TRANSISTOR
	Q326	2SA933S	TRANSISTOR
	Q327	2SA933S(QRS)	TRANSISTOR
	Q331	DTC124ES	TRANSISTOR
	Q401	DTA124ES	TRANSISTOR
	Q402	DTA124ES	TRANSISTOR
	Q403	DTC124ES	TRANSISTOR
	D301	1SS133	DIODE
		OR MA165	DIODE
	D302	1SS133	DIODE
		OR MA165	DIODE
	D311	1SS133	DIODE
		OR MA165	DIODE
	D312	1SS133	DIODE
		OR MA165	DIODE
	D313	1SS133	DIODE
		OR MA165	DIODE
	D314	1SS133	DIODE
		OR MA165	DIODE
	D315	1SS133	DIODE
		OR MA165	DIODE
	D401	1SS133	DIODE
		OR MA165	DIODE
	D402	1SS133	DIODE
		OR MA165	DIODE
	D403	1SS133	DIODE
		OR MA165	DIODE
	R302	QRD161J-102	RESISTOR
	R303	QRD161J-102	RESISTOR
	R304	QRD161J-102	RESISTOR
	R305	QRD161J-102	RESISTOR
	R307	QRD161J-225	RESISTOR
	R308	QRD161J-103	RESISTOR
	R309	QRD161J-102	RESISTOR
	R310	QRD161J-222	RESISTOR
	R311	QRD161J-222	RESISTOR
	R312	QRD161J-561	RESISTOR
	R313	QRD161J-561	RESISTOR
	R314	QRD161J-103	RESISTOR
	R315	QRD161J-471	RESISTOR
	R316	QRD161J-223	RESISTOR
	R319	QRD161J-102	RESISTOR
	R320	QRD161J-102	RESISTOR
	R321	QRD161J-561	RESISTOR
	R322	QRD161J-471	RESISTOR
	R323	QRD161J-272	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R324	QRD161J-391	RESISTOR
	R325	QRD161J-223	RESISTOR
	R326	QRD161J-561	RESISTOR
	R327	QRD161J-333	RESISTOR
	R328	QRD161J-102	RESISTOR
	R329	QRD161J-222	RESISTOR
	R330	QRD161J-561	RESISTOR
	R331	QRD161J-561	RESISTOR
	R332	QRD161J-393	RESISTOR
	R333	QRD161J-223	RESISTOR
	R334	QRD161J-221	RESISTOR
	R335	QRD161J-391	RESISTOR
	R336	QRD161J-152	RESISTOR
	R337	QRD161J-333	RESISTOR
	R338	QRD161J-333	RESISTOR
	R339	QRD161J-151	RESISTOR
	R340	QRD161J-222	RESISTOR
	R341	QRD161J-331	RESISTOR
	R342	QRD161J-561	RESISTOR
	R343	QRD161J-393	RESISTOR
	R344	QRD161J-332	RESISTOR
	R345	QRD161J-472	RESISTOR
	R346	QRD161J-103	RESISTOR
	R347	QRD161J-473	RESISTOR
	R348	QRD161J-391	RESISTOR
	R349	QRD161J-821	RESISTOR
	R350	QRD161J-471	RESISTOR
	R351	QRD161J-102	RESISTOR
	R352	QRD161J-102	RESISTOR
	R353	QVZ3518-222	V RESISTOR
	R354	QRD161J-222	RESISTOR
	R355	QVZ3518-222	V RESISTOR
	R357	QRD161J-333	RESISTOR
	R358	QRD161J-223	RESISTOR
	R359	QRD161J-223	RESISTOR
	R360	QRD161J-102	RESISTOR
	R361	QRD161J-821	RESISTOR
	R362	QRD161J-103	RESISTOR
	R363	QRD161J-103	RESISTOR
	R364	QRD161J-223	RESISTOR
	R366	QRD161J-103	RESISTOR
	R367	QRD161J-473	RESISTOR
	R368	QRD161J-332	RESISTOR
	R371	QRD161J-272	RESISTOR
	R380	QRD161J-682	RESISTOR
	R401	QRD161J-103	RESISTOR
	R402	QRD161J-914	RESISTOR
	R403	QRD161J-104	RESISTOR
	R404	QRD161J-333	RESISTOR
	R405	QRD161J-273	RESISTOR
	C301	QETC1HM-105	E CAPACITOR
	C302	QETC1HM-105	E CAPACITOR
	C303	QCC31CJ-223	CAPACITOR
	C304	QETC0JM-107	E CAPACITOR
	C305	QETC1HM-105	E CAPACITOR
	C307	QCSB1HJ-330	CAPACITOR
	C308	QCSB1HJ-390	CAPACITOR
	C309	QFN41HJ-473	M CAPACITOR
	C310	QCSB1HJ-560	CAPACITOR
	C311	QEK60JM-476	E CAPACITOR
	C312	QCVB1CN-103	CAPACITOR
	C314	QCBB1HJ-820	CAPACITOR
	C315	QCC31CK-682	CAPACITOR
	C316	QCVB1CN-103	CAPACITOR
	C317	QCXB1CN-222	CAPACITOR
	C318	QCBB1HJ-820	CAPACITOR

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#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C320	QCVB1CN-103	CAPACITOR
	C321	QETC1HM-105	E CAPACITOR
	C322	QETC1HM-104	E CAPACITOR
	C323	QEK61EM-475	E CAPACITOR
	C324	QCC31CK-104	CAPACITOR
	C325	QETC0JM-337	E CAPACITOR
	C326	QCC31CK-563	CAPACITOR
	C327	QETC0JM-107	E CAPACITOR
	C328	QETC1EM-335	E CAPACITOR
	C329	QETC0JM-337	E CAPACITOR
	C330	QETB1HM-474	E CAPACITOR
	C331	QETC1HM-474	E CAPACITOR
	C332	QETC1HM-474	E CAPACITOR
	C333	QEK61HM-474	E CAPACITOR
	C334	QETC1HM-474	E CAPACITOR
	C335	QETC1CM-106	E CAPACITOR
	C336	QCVB1CN-103	CAPACITOR
	C337	QCBB1HJ-121	CAPACITOR
	C338	QCVB1CN-103	CAPACITOR
	C339	QCVB1CN-103	CAPACITOR
	C341	QCVB1CN-103	CAPACITOR
	C342	QCSB1HJ-100	CAPACITOR
	C343	QCVB1CN-103	CAPACITOR
	C345	QCVB1CN-103	CAPACITOR
	C346	QCVB1CN-103	CAPACITOR
	C347	QCSB1HJ-390	CAPACITOR
	C348	QCVB1CN-103	CAPACITOR
	C349	QCVB1CN-103	CAPACITOR
	C350	QCVB1CN-103	CAPACITOR
	C351	QCVB1CN-103	CAPACITOR
	C352	QEK60JM-476	E CAPACITOR
	C353	QCVB1CN-103	CAPACITOR
	C355	QCVB1CN-103	CAPACITOR
	C401	QEK61CM-106	E CAPACITOR
	C402	QEK61EM-335	E CAPACITOR
	C403	QCBB1HJ-471	CAPACITOR
	C404	QCVB1CN-103	CAPACITOR
	C405	QCVB1CN-103	CAPACITOR
	C406	QCVB1CN-103	CAPACITOR
	C407	QFN31HJ-471	M CAPACITOR
	C408	QCSB1HJ-470	CAPACITOR
	C409	QCXB1CN-472	CAPACITOR
	C410	QCSB1HK-4R7	CAPACITOR
	C411	QCSB1HJ-200	CAPACITOR
	C412	QEK60JM-107	E CAPACITOR
	C413	QCVB1CN-103	CAPACITOR
	L301	PU48530-101K	COIL
	L303	PU48530-101K	COIL
	L304	PU59152-390J	COIL
	L305	PU48530-222J	COIL
	L306	PU59152-221J	COIL
	L307	PU48530-821J	COIL
	L308	PU48530-101K	COIL
	L309	PU59152-100J	COIL
	L310	PU59152-100J	COIL
	L311	PU59153-822J	COIL
	L312	PU59153-101K	COIL
	L313	PU59153-101K	COIL
	L314	PU48530-101K	COIL
	L316	PU59152-150J	COIL
	L317	PU48530-101K	COIL
	L401	PU59152-330J	COIL
	L402	PU48530-101K	COIL
	EQ301	PU60811-2	EQUALIZER

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	LPF301	PU58022	LOW PASS FILTER
	BPF301	PU57072	BAND PASS FILTER
	OR	PU57072-2	BAND PASS FILTER
	BPF302	PU60654	BAND PASS FILTER
	OR	PU60654-2	BAND PASS FILTER
⚠	CF301	PU57073	CERAMIC FILTER
	DL301	PU58971-3	COMB FILTER
	X301	PU60653	CRYSTAL UNITS
	T301	PU49057	LC BLOCK
	T401	PU60655	COIL

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* 8. TERMINAL BOARD ASSEMBLY <06> *
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	PWBA	PGE30200A-03	TERMINAL BOARD ASSY
	D1	RD10ESB1	ZENER DIODE
	D2	RD10ESB1	ZENER DIODE
	D7	1SS133	DIODE
	D8	1SS133	DIODE
	R1	QRD167J-102	RESISTOR
	R2	QRD167J-102	RESISTOR
	R3	QVZ3518-105	V RESISTOR
	R7	QRD167J-750	RESISTOR
	R8	QRD167J-750	RESISTOR
	R9	QRD167J-750	RESISTOR
	C1	QCBB1HK-102	CAPACITOR
	C2	QCBB1HK-102	CAPACITOR
⚠	LC1	PU59885-102	N FILTER
⚠	LC2	PU59885-102	N FILTER
	K1	PU58903	FERRITE CORE
	J1	PGZ00592	7P CONNECTOR
	J2	PGZ00593	7P CONNECTOR
	TB1	PGZ01267	TERMINAL BOARD
	CN1	PU58929-18	CONNECTOR
	CN2	PU58929-13	CONNECTOR

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* 9. AUDIO BOARD ASSEMBLY <09>. *
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	PWBA	PGE20307A	AUDIO BOARD ASSY
	IC1	AN3380NK	IC
	IC2	TA7361AP	IC
	IC3	PB20167A-01	FMA MODULE
	IC101	UPC78N05	IC

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q1	2SC1740S(RS)	TRANSISTOR
	Q2	2SC3311(RS)	TRANSISTOR
	Q3	DTC114ES	TRANSISTOR
	Q4	2SC1740S(RS)	TRANSISTOR
	Q5	DTC114ES	TRANSISTOR
	Q6	DTC114ES	TRANSISTOR
	Q7	DTC114ES	TRANSISTOR
	Q8	DTA114ES	TRANSISTOR
	Q9	DTA114ES	TRANSISTOR
	Q10	2SC1740S(RS)	TRANSISTOR
	Q11	2SC1740S(RS)	TRANSISTOR
	Q12	DTC143TS	TRANSISTOR
	Q13	DTC143TS	TRANSISTOR
	Q16	2SC3311(RS)	TRANSISTOR
	Q17	DTA114ES	TRANSISTOR
	Q18	DTC114ES	TRANSISTOR
	Q20	DTA114ES	TRANSISTOR
	Q23	DTA143TS	TRANSISTOR
	Q101	2SD1764	TRANSISTOR
	Q102	2SA854S(QR)	TRANSISTOR
	Q103	2SA854S(QR)	TRANSISTOR
	D1	1SS133	DIODE
		OR MA165	DIODE
	D3	1SS133	DIODE
		OR MA165	DIODE
	D5	1SS133	DIODE
		OR MA165	DIODE
	D6	1SS133	DIODE
		OR MA165	DIODE
	D7	1SS133	DIODE
		OR MA165	DIODE
	D8	1SS133	DIODE
		OR MA165	DIODE
	D9	HZ2BLL	DIODE
	D12	1SS133	DIODE
		OR MA165	DIODE
	D16	1SS133	DIODE
		OR MA165	DIODE
	D17	1SS133	DIODE
		OR MA165	DIODE
	D101	HZ12A2	ZENER DIODE
	D102	1SS133	DIODE
		OR MA165	DIODE
	R3	QRD161J-102	RESISTOR
	R4	QRD161J-682	RESISTOR
	R5	QRD161J-151	RESISTOR
	R6	QRD161J-152	RESISTOR
	R7	QRD161J-222	RESISTOR
	R8	QRD161J-100	RESISTOR
	R9	QVZ3518-473	V RESISTOR
	R10	QRD161J-333	RESISTOR
	R11	QRD161J-473	RESISTOR
	R12	QRD161J-101	RESISTOR
	R13	QRD161J-273	RESISTOR
	R14	QRD161J-3R9	RESISTOR
	R15	QRD161J-103	RESISTOR
	R18	QRD161J-0R0	RESISTOR
	R20	QRD161J-183	RESISTOR
	R21	QRD161J-270	RESISTOR
	R22	QRD161J-470	RESISTOR
	R23	QRD161J-303	RESISTOR
	R25	QRD161J-103	RESISTOR
	R26	QRD161J-274	RESISTOR
	R27	QRD161J-471	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R28	QVZ3518-102	V RESISTOR
	R29	QRD161J-102	RESISTOR
	R31	QRD161J-151	RESISTOR
	R32	QRD161J-102	RESISTOR
	R33	QRD161J-102	RESISTOR
	R34	QRD161J-151	RESISTOR
	R40	QRD161J-222	RESISTOR
	R41	QRD161J-222	RESISTOR
	R43	QRD161J-101	RESISTOR
	R44	QRD161J-101	RESISTOR
	R45	QRD161J-392	RESISTOR
	R46	QRD161J-332	RESISTOR
	R47	QRD161J-123	RESISTOR
	R48	QRD161J-223	RESISTOR
	R49	QRD161J-274	RESISTOR
	R50	QRD161J-222	RESISTOR
	R51	QRD161J-222	RESISTOR
	R52	QRD161J-103	RESISTOR
	R53	QRD161J-333	RESISTOR
	R54	QRD161J-183	RESISTOR
	R55	QRD161J-392	RESISTOR
	R56	QRD161J-272	RESISTOR
	R57	QRD161J-181	RESISTOR
	R58	QRD161J-333	RESISTOR
	R59	QRD161J-333	RESISTOR
	R60	QRD161J-333	RESISTOR
	R62	QRD161J-333	RESISTOR
	R63	QRD161J-102	RESISTOR
	R64	QRD161J-331	RESISTOR
	R65	QRD161J-223	RESISTOR
	R66	QRD161J-6R8	RESISTOR
	R67	QRD161J-333	RESISTOR
	R68	QRD161J-333	RESISTOR
	R70	QRD161J-273	RESISTOR
	R72	QRD161J-392	RESISTOR
	R73	QVZ3518-332	V RESISTOR
	R74	QVZ3518-332	V RESISTOR
	R76	QRD161J-151	RESISTOR
	R80	QVZ3518-331	V RESISTOR
	R81	QRD161J-103	RESISTOR
	R82	QRD161J-153	RESISTOR
	R83	QRD162J-222	RESISTOR
	R84	QRD162J-222	RESISTOR
	R85	QRD161J-222	RESISTOR
	R86	QRD161J-103	RESISTOR
	R87	QRD161J-102	RESISTOR
	R88	QRD161J-102	RESISTOR
	R89	QRD161J-820	RESISTOR
	R91	QRD161J-103	RESISTOR
	R101	QRD161J-182	RESISTOR
	R103	QRD161J-103	RESISTOR
	R104	QRD161J-222	RESISTOR
	R105	QRD161J-103	RESISTOR
	R106	QRD161J-681	RESISTOR
	R107	QRD161J-152	RESISTOR
	R108	QRD161J-391	RESISTOR
	R109	QRD161J-332	RESISTOR
	R110	QRD161J-153	RESISTOR
	C1	QETC1CM-106	E CAPACITOR
	C2	QETC1AM-476	E CAPACITOR
	C3	QEP61CM-106	NP E CAPACITOR
	C4	QETC1CM-106	E CAPACITOR
	C5	QETC1CM-226	E CAPACITOR
	C6	QETC1AM-336	E CAPACITOR
	C7	QETC1AM-476	E CAPACITOR

#	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C8	QCBB1HK-102	CAPACITOR
	C9	QCBB1HK-101	CAPACITOR
	C10	QETC1AM-336	E CAPACITOR
	C11	QETC1AM-107	E CAPACITOR
	C12	QETC1CM-226	E CAPACITOR
	C13	QETB1CM-106	E CAPACITOR
	C14	QEP61CM-106	NP E CAPACITOR
	C15	QETB1AM-476	E CAPACITOR
	C16	QETC1CM-106	E CAPACITOR
	C17	QCBB1HJ-331	CAPACITOR
	C18	QFV71HJ-223	M CAPACITOR
	OR	QFN31HJ-223	M CAPACITOR
	C19	QCC11EJ-222	CAPACITOR
	C20	QCC11EJ-102	CAPACITOR
	C21	QEK61EM-475	E CAPACITOR
	C22	QETB1EM-475	E CAPACITOR
	C24	QCBB1HJ-561	CAPACITOR
	C25	QETC1HM-225	E CAPACITOR
	C26	QETC1AM-336	E CAPACITOR
	C27	QETC0JM-476	E CAPACITOR
	C28	QFN31HJ-104	M CAPACITOR
	OR	QFV71HJ-104	M CAPACITOR
	C29	QFV71HJ-473	M CAPACITOR
	C30	QETC1HM-105	E CAPACITOR
	C32	QFN31HJ-123	M CAPACITOR
	C33	QFV71HJ-274	M CAPACITOR
	C34	QEB51CM-226	E CAPACITOR
	C35	QEB51HM-105	E CAPACITOR
	C36	QETB1CM-106	E CAPACITOR
	C37	QETC1AM-336	E CAPACITOR
	C38	QETC1CM-476	E CAPACITOR
	C39	QETC1AM-336	E CAPACITOR
	C40	QETC1CM-106	E CAPACITOR
	C41	QETC1CM-476	E CAPACITOR
	C42	QETC1HM-225	E CAPACITOR
	C43	QETC1CM-106	E CAPACITOR
	C44	QETC1HM-225	E CAPACITOR
	C45	QEN61HM-225	NP E CAPACITOR
	C46	QEN61HM-225	NP E CAPACITOR
	C47	QETC1HM-225	E CAPACITOR
	C49	QCF31HP-223	CAPACITOR
	C50	QFV71HJ-104	M CAPACITOR
	OR	QFN31HJ-104	M CAPACITOR
	C51	QFV71HJ-104	M CAPACITOR
	OR	QFN31HJ-104	M CAPACITOR
	C52	QFV71HJ-104	M CAPACITOR
	OR	QFN31HJ-104	M CAPACITOR
	C53	QCF31HP-223	CAPACITOR
	C54	QEK60JM-107	E CAPACITOR
	C55	QCVB1CN-103	CAPACITOR
	C56	QCBB1HJ-102	CAPACITOR
	C57	QCSB1HJ-330	CAPACITOR
	C58	QCBB1HJ-331	CAPACITOR
	C59	QCBB1HJ-102	CAPACITOR
	C60	QCVB1CN-103	CAPACITOR
	C61	QCVB1CN-103	CAPACITOR
	C62	QCVB1CN-103	CAPACITOR
	C63	QCC11EJ-272	CAPACITOR
	C66	QETC1CM-106	E CAPACITOR
	C67	QETC1CM-106	E CAPACITOR
	C68	QETC1HM-225	E CAPACITOR
	C69	QETC1HM-225	E CAPACITOR
	C70	QCBC1HJ-391	CAPACITOR
	C71	QCBB1HJ-391	CAPACITOR
	C72	QCBB1HK-561	CAPACITOR
	C73	QCBB1HK-561	CAPACITOR
	C74	QCC11EJ-332	CAPACITOR

#	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C75	QCC11EJ-102	CAPACITOR
	C76	QFV71HJ-333	M CAPACITOR
	OR	QFN31HJ-333	M CAPACITOR
	C77	QETC1CM-106	E CAPACITOR
	C78	QFV71HJ-104	M CAPACITOR
	OR	QFN31HJ-104	M CAPACITOR
	C79	QCC11EJ-273	CAPACITOR
	C101	QEK61EM-336	E CAPACITOR
	C102	QCBB1HK-102	CAPACITOR
	C103	QEK61HM-105	E CAPACITOR
	C104	QETC1CM-106	E CAPACITOR
	C105	QFV81HJ-153	TF CAPACITOR
	C106	QCBB1HJ-681	CAPACITOR
	C107	QCBB1HJ-391	CAPACITOR
	L1	PU54223-101J	COIL
	L3	PU58308-392J	COIL
	L4	PU54223-221J	COIL
	L5	PU54223-101J	COIL
	BPF1	PU60610	BAND PASS FILTER
	BPF2	PU60611	BAND PASS FILTER
⚠	T1	PU60320	OSC TRANSFORMER
⚠	T2	PU60321	OSC TRANSFORMER
	HN1	PU58018-1-2	PWB HINGE, X2
⚠	HS1	PU60185	HEAT SINK
	HS2	PU60261	HEAT SINK
	SCW1	DPSP3008Z	SCREW
	SLD1	PU59960	PRE AMP SHIELD1
	SLD2	PU59961	PRE AMP SHIELD2
	SLD3	PQ43345-1-1	SHIELD PLATE
	TP1	PU55774	TEST PIN, X7
	CN1	PU58844-3Y	CAP HOUSING
	CN2	PU59555-8	CAP HOUSING
	CN4	PU59555-5	CAP HOUSING
	CN5	PU58844-4	CAP HOUSING
	CN6	PU58844-2	CAP HOUSING
	CN7	PU58844-4	CAP HOUSING
	CN9	PU58844-8	CAP HOUSING
	CN10	PU58844-5	CAP HOUSING
	CN11	PU58844-3	CAP HOUSING
	CN12	PU58844-6	CAP HOUSING
	CN14	PU58844-2Y	CAP HOUSING
	CP1	ICP-F20	CIRCUIT PROTECTOR

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* 10. AV IN/OUT BOARD ASSEMBLY <10> *
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	PWBA	PGE20309A-01	AV IN/OUT BOARD ASSY
	CN2	PU58844-3	CAP HOUSING
	CN3	PU59555-5	CAP HOUSING
	CN16	PU58929-16	CAP HOUSING
	CN17	PU58929-15	CAP HOUSING
	CN301	PU58844-5	CAP HOUSING

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	CN304	PU58844-3	CAP HOUSING
	CN307	PU58844-4	CAP HOUSING
		-AUDIO SECTION-	
	IC1	TC4052BP	IC
	OR	MC14052BCP	IC
	IC2	M5218P	IC
	IC3	M5218P	IC
	Q1	2SD1450S,T	TRANSISTOR
	Q2	2SC1740S(QRS)	TRANSISTOR
	Q3	2SC1740S(QRS)	TRANSISTOR
	R1	QRD161J-102	RESISTOR
	R2	QRD161J-102	RESISTOR
	R3	QRD161J-102	RESISTOR
	R4	QRD161J-102	RESISTOR
	R5	QRD161J-102	RESISTOR
	R6	QRD161J-102	RESISTOR
	R7	QRD161J-103	RESISTOR
	R8	QRD161J-103	RESISTOR
	R9	QRD161J-473	RESISTOR
	R10	QRD161J-104	RESISTOR
	R11	QRD161J-103	RESISTOR
	R12	QRD161J-0R0	RESISTOR
	R13	QRD161J-823	RESISTOR
	R14	QRD161J-221	RESISTOR
	R15	QRD161J-103	RESISTOR
	R16	QRD161J-332	RESISTOR
	R17	QRD161J-332	RESISTOR
	R18	QRD161J-224	RESISTOR
	R19	QRD161J-224	RESISTOR
	R20	QRD161J-0R0	RESISTOR
	R21	QRD161J-0R0	RESISTOR
	R22	QRD161J-682	RESISTOR
	R23	QRD161J-682	RESISTOR
	R24	QRD161J-302	RESISTOR
	R25	QRD161J-302	RESISTOR
	R26	QRD161J-101	RESISTOR
	R27	QRD161J-122	RESISTOR
	R28	QRD161J-561	RESISTOR
	R29	QRD161J-222	RESISTOR
	R30	QRD161J-473	RESISTOR
	R31	QRD161J-103	RESISTOR
	R32	QRD161J-222	RESISTOR
	RA1	QRB045J-104XC	RESISTOR ARRAY
	OR	QRB045J-104C	RESISTOR ARRAY
	RA2	QRB055J-104XC	RESISTOR ARRAY
	OR	QRB055J-104C	RESISTOR ARRAY
	RA3	QRB065J-104XC	RESISTOR ARRAY
	OR	QRB065J-104C	RESISTOR ARRAY
	C1	QEK61CM-106	E CAPACITOR
	C2	QEP61CM-106	NP E CAPACITOR
	C3	QEK61CM-106	E CAPACITOR
	C4	QEK61CM-106	E CAPACITOR
	C5	QEK61CM-106	E CAPACITOR
	C6	QEK61CM-106	E CAPACITOR
	C7	QEP61CM-106	NP E CAPACITOR
	C8	QEK61CM-106	E CAPACITOR
	C9	QEK60JM-107	E CAPACITOR
	C10	QEP61HM-335	E CAPACITOR
	C11	QEP61HM-335	E CAPACITOR
	C12	QEK61HM-105	E CAPACITOR
	C13	QEK61HM-105	E CAPACITOR
	C14	QEK61HM-105	E CAPACITOR
	C16	QEK61CM-476	E CAPACITOR
	C20	QEK61CM-476	E CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C21	QEK61CM-106	E CAPACITOR
	SLD2	PQ42994	SHIELD PLATE
	SLD3	PQ42995	SHIELD CASE
		-VIDEO SECTION-	
	IC301	NJM2234S	IC
	IC302	NJM2234S	IC
	IC303	NJM2243S	IC
	IC304	NJM2234S	IC
	IC305	TC74HC4066AP	IC
	Q301	2SA933S(RS)	TRANSISTOR
	OR	2SA1309RTA	TRANSISTOR
	Q302	2SA933S(RS)	TRANSISTOR
	OR	2SA1309RTA	TRANSISTOR
	Q303	2SA933S(RS)	TRANSISTOR
	OR	2SA1309RTA	TRANSISTOR
	Q304	2SB810H,J	TRANSISTOR
	Q305	DTA124ES	TRANSISTOR
	Q306	2SA933S(RS)	TRANSISTOR
	OR	2SA1309RTA	TRANSISTOR
	Q307	2SC1740S(QRS)	TRANSISTOR
	Q308	2SC1740S(QRS)	TRANSISTOR
	Q309	2SC1740S(QRS)	TRANSISTOR
	Q311	2SC1740S(QRS)	TRANSISTOR
	Q312	2SC1740S(QRS)	TRANSISTOR
	Q313	2SC1740S(QRS)	TRANSISTOR
	Q314	2SC1740S(QRS)	TRANSISTOR
	Q315	2SC1740S(QRS)	TRANSISTOR
	Q316	2SA933S(RS)	TRANSISTOR
	OR	2SA1309RTA	TRANSISTOR
	Q317	DTC144WS	TRANSISTOR
	Q318	2SA933S(RS)	TRANSISTOR
	OR	2SA1309RTA	TRANSISTOR
	Q319	2SC1740S(QRS)	TRANSISTOR
	D301	1SS133	DIODE
	OR	MA165	DIODE
	D302	1SS133	DIODE
	OR	MA165	DIODE
	D303	1SS133	DIODE
	OR	MA165	DIODE
	D304	1SS133	DIODE
	OR	MA165	DIODE
	D305	1SS133	DIODE
	OR	MA165	DIODE
	D306	1SS133	DIODE
	OR	MA165	DIODE
	D307	1SS133	DIODE
	OR	MA165	DIODE
	D308	1SS133	DIODE
	OR	MA165	DIODE
	D309	1SS133	DIODE
	OR	MA165	DIODE
	D310	1SS133	DIODE
	OR	MA165	DIODE
	D311	1SS133	DIODE
	OR	MA165	DIODE
	D312	1SS133	DIODE
	OR	MA165	DIODE
	D313	1SS133	DIODE
	OR	MA165	DIODE
	D314	1SS133	DIODE
	OR	MA165	DIODE
	D315	1SS133	DIODE
	OR	MA165	DIODE
	D316	1SS133	DIODE

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	OR	MA165	DIODE
	D317	1SS133	DIODE
	OR	MA165	DIODE
	D318	1SS133	DIODE
	OR	MA165	DIODE
	D319	1SS133	DIODE
	D320	1SS133	DIODE
	OR	MA165	DIODE
	D321	1SS133	DIODE
	OR	MA165	DIODE
	D322	1SS133	DIODE
	OR	MA165	DIODE
	D323	1SS133	DIODE
	OR	MA165	DIODE
	D324	1SS133	DIODE
	OR	MA165	DIODE
	D325	1SS133	DIODE
	OR	MA165	DIODE
	D326	1SS133	DIODE
	OR	MA165	DIODE
	D327	1SS133	DIODE
	OR	MA165	DIODE
	D328	1SS133	DIODE
	OR	MA165	DIODE
	D329	1SS133	DIODE
	OR	MA165	DIODE
	D330	1SS133	DIODE
	OR	MA165	DIODE
	D331	1SS133	DIODE
	OR	MA165	DIODE
	R301	QRD161J-472	RESISTOR
	R302	QRD161J-680	RESISTOR
	R303	QRD127J-391	RESISTOR
	R304	QRD162J-750	RESISTOR
	R305	QRD161J-472	RESISTOR
	R306	QRD181J-561	RESISTOR
	R307	QRD161J-750	RESISTOR
	R308	QRD181J-561	RESISTOR
	R309	QRD161J-750	RESISTOR
	R310	QRD161J-472	RESISTOR
	R311	QRD161J-102	RESISTOR
	R312	QRD161J-102	RESISTOR
	R313	QRD161J-472	RESISTOR
	R314	QRD161J-472	RESISTOR
	R315	QRD161J-332	RESISTOR
	R316	QRD161J-473	RESISTOR
	R317	QRD161J-103	RESISTOR
	R319	QRD161J-103	RESISTOR
	R320	QRD161J-223	RESISTOR
	R321	QRD161J-223	RESISTOR
	R322	QRD161J-222	RESISTOR
	R325	QRD161J-222	RESISTOR
	R326	QRD161J-102	RESISTOR
	R327	QRD161J-102	RESISTOR
	R328	QRD161J-223	RESISTOR
	R329	QRD161J-392	RESISTOR
	R330	QRD161J-272	RESISTOR
	R331	QRD161J-331	RESISTOR
	R332	QRD161J-101	RESISTOR
	R333	QRD161J-272	RESISTOR
	R335	QRD161J-223	RESISTOR
	R337	QRD161J-182	RESISTOR
	R338	QRD161J-103	RESISTOR
	R339	QRD161J-223	RESISTOR
	R340	QRD161J-272	RESISTOR
	R341	QRD161J-562	RESISTOR
	R342	QRD161J-223	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R343	QRD161J-562	RESISTOR
	R344	QRD161J-103	RESISTOR
	R345	QRD161J-393	RESISTOR
	R346	QRD161J-472	RESISTOR
	R347	QRD161J-101	RESISTOR
	R348	QRD161J-560	RESISTOR
	R349	QRD161J-560	RESISTOR
	R351	QRD161J-103	RESISTOR
	R352	QRD161J-683	RESISTOR
	R353	QRD161J-103	RESISTOR
	R354	QRD161J-123	RESISTOR
	R355	QRD162J-102	RESISTOR
	C301	QEK61CM-106	E CAPACITOR
	C302	QEK61CM-106	E CAPACITOR
	C303	QEK61CM-106	E CAPACITOR
	C304	QEK61CM-106	E CAPACITOR
	C305	QEK61CM-106	E CAPACITOR
	C306	QCVB1CN-103	CAPACITOR
	C307	QCVB1CN-103	CAPACITOR
	C308	QEK60JM-476	E CAPACITOR
	C309	QEK61CM-226	E CAPACITOR
	C310	QEK61CM-226	E CAPACITOR
	C311	QCVB1CN-103	CAPACITOR
	C312	QEK61CM-476	E CAPACITOR
	C313	QETB1AM-477	E CAPACITOR
	C314	QCVB1CN-103	CAPACITOR
	C315	QEK61CM-476	E CAPACITOR
	C316	QETB0JM-477	E CAPACITOR
	C317	QCVB1CN-103	CAPACITOR
	C318	QCVB1CN-103	CAPACITOR
	C319	QEK61CM-476	E CAPACITOR
	C320	QCVB1CN-103	CAPACITOR
	C321	QEK61EM-476	E CAPACITOR
	C322	QCVB1CN-103	CAPACITOR
	C323	QCVB1CN-103	CAPACITOR
	C324	QCVB1CN-103	CAPACITOR
	C325	QCBB1HJ-101	CAPACITOR
	C327	QCSB1HJ-560	CAPACITOR
	C328	QCVB1CN-103	CAPACITOR
	C329	QEK61CM-106	E CAPACITOR
	C330	QCVB1CN-103	CAPACITOR
	C332	QCVB1CN-103	CAPACITOR
	C333	QCVB1CN-103	CAPACITOR
	C334	QEK61CM-106	E CAPACITOR
	C335	QCSB1HJ-560	CAPACITOR
	C336	QCVB1CN-103	CAPACITOR
	C337	QCVB1CN-103	CAPACITOR
	C338	QCVB1CN-103	CAPACITOR
	C339	QEK61HM-105	E CAPACITOR
	C341	QEK60JM-476	E CAPACITOR
	C342	QCVB1CN-103	CAPACITOR
	C343	QCVB1CN-103	CAPACITOR
	C344	QCVB1CN-103	CAPACITOR
	C345	QCVB1CN-103	CAPACITOR
	C346	QCSB1HJ-390	CAPACITOR
	C347	QCVB1CN-103	CAPACITOR
	C350	QEK61AM-226	E CAPACITOR
	C353	QCBB1HJ-561	CAPACITOR
	C354	QCSC1HJ-330	CAPACITOR
	L301	PU48530-101K	COIL
	L302	PU48530-101K	COIL
	L303	PU48530-101K	COIL
	L304	PU48530-101K	COIL
	L306	PU48530-101K	COIL
	L307	PU59152-180J	COIL
	L308	PU48530-101K	COIL

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	L309	PU48530-101K	COIL
	L310	PU59153-822J	COIL
	L311	PU59152-100J	COIL
	EQ301	PU54838	EQUALIZER
	BPF301	PU57072	BAND PASS FILTER
	SLD4	PQ43207	SHIELD COVER

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* 11. A/C HEAD BOARD ASSEMBLY <12> *
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	PWBA	PB40029	A/C HEAD BOARD ASSY
	CN1	PU58844-103	CAP HOUSING
	CN2	PU58844-104B	CAP HOUSING

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* 12. TIMER BOARD ASSEMBLY <20> *
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	PWBA	PGE20308A-01	TIMER BOARD ASSY
	IC1	UPD75216ÂCW-A37	IC
	IC2	S-8053HNB	IC
	IC301	SDA5642	IC
	Q1	2SD1863(QR)	TRANSISTOR
	Q2	2SC3311A(RS)	TRANSISTOR
	Q3	DTC124ES	TRANSISTOR
	Q4	2SC3311A(RS)	TRANSISTOR
	Q5	DTC124ES	TRANSISTOR
	Q6	DTC124ES	TRANSISTOR
	D1	RD9.1ES-T1B2	ZENER DIODE
		OR HZS9.1EB2TJ	ZENER DIODE
	D2	DA210S	DIODE
	D3	MTZJ4.7C	ZENER DIODE
		OR RD4.7ES-T1B3	ZENER DIODE
	D4	MTZ8.2B	ZENER DIODE
		OR RD8.2ES-T1B2	ZENER DIODE
	D5	MTZ8.2B	ZENER DIODE
		OR RD8.2ES-T1B2	ZENER DIODE
	D6	1SS133	DIODE
		OR MA165	DIODE
	D7	1SS133	DIODE
		OR MA165	DIODE
	D8	1SS133	DIODE
		OR MA165	DIODE
	D9	1SS133	DIODE
		OR MA165	DIODE
	D10	1SS133	DIODE
		OR MA165	DIODE
	D25	1SS133	DIODE
	D26	1SS133	DIODE
	D29	1SS133	DIODE
	D30	1SS133	DIODE
	D35	1SS133	DIODE
	R1	QRD161J-121	RESISTOR
	R2	QRD161J-102	RESISTOR
	R3	QRD161J-103	RESISTOR
	R4	QRD161J-682	RESISTOR
	R5	QRD161J-104	RESISTOR
	R6	QRD161J-151	RESISTOR
	R7	QRD161J-102	RESISTOR
	R8	QRD161J-104	RESISTOR
	R9	QRD161J-472	RESISTOR
	R10	QRD161J-102	RESISTOR
	R11	QRD161J-102	RESISTOR
	R12	QRD161J-102	RESISTOR
	R13	QRD161J-102	RESISTOR
	R14	QRD161J-102	RESISTOR
	R15	QRD161J-102	RESISTOR
	R16	QRD161J-102	RESISTOR
	R17	QRD161J-102	RESISTOR
	R18	QRD161J-102	RESISTOR
	R19	QRD161J-102	RESISTOR
	R20	QRD161J-102	RESISTOR
	R21	QRD161J-102	RESISTOR
	R22	QRD161J-472	RESISTOR
	R23	QRD161J-472	RESISTOR
	R24	QRD161J-472	RESISTOR
	R25	QRD161J-472	RESISTOR
	R26	QRD161J-102	RESISTOR
	R29	QRD161J-472	RESISTOR
	R30	QRD161J-472	RESISTOR
	R31	QRD161J-472	RESISTOR
	R32	QRD161J-472	RESISTOR
	R33	QRD161J-472	RESISTOR
	R34	QRD161J-472	RESISTOR
	R35	QRD161J-472	RESISTOR
	R36	QRD161J-472	RESISTOR
	R37	QRD161J-472	RESISTOR
	R38	QRD161J-472	RESISTOR
	R39	QRD161J-472	RESISTOR
	R40	QRD161J-472	RESISTOR
	R41	QRD161J-472	RESISTOR
	R42	QRD161J-472	RESISTOR
	R43	QRD161J-333	RESISTOR
	R44	QRD161J-472	RESISTOR
	R45	QRD161J-472	RESISTOR
	R46	QRD161J-102	RESISTOR
	R47	QRD161J-333	RESISTOR
	R49	QRD161J-272	RESISTOR
	R50	QRD161J-271	RESISTOR
	R51	QRD161J-271	RESISTOR
	R301	QRD161J-824	RESISTOR
	R302	QRD161J-101	RESISTOR
	R303	QRD161J-562	RESISTOR
	R304	QRD161J-104	RESISTOR
	R305	QRD161J-103	RESISTOR
	R306	QRD161J-103	RESISTOR
	R307	QRD161J-105	RESISTOR
	R308	QRD161J-824	RESISTOR
	R309	QRD161J-104	RESISTOR
	R310	QRD161J-202	RESISTOR
	RA1	QRB067J-224	RESISTOR ARRAY
		OR QRB069J-224C	RESISTOR ARRAY
		OR QRB069J-224	RESISTOR ARRAY
	RA2	QRB067J-104	NETWORK RESISTOR
		OR QRB069J-104C	RESISTOR ARRAY
		OR QRB069J-104	NETWORK RESISTOR
	RA3	QRB047J-333	RESISTOR ARRAY
		OR QRB049J-333	RESISTOR ARRAY
		OR QRB049J-333C	RESISTOR ARRAY
	RA4	QRB037J-104	NETWORK RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
		OR QRB039J-104C	RESISTOR ARRAY
		OR QRB039J-104	NETWORK RESISTOR
	C1	QETC1CM-336	E CAPACITOR
	C2	QETC1HM-335	E CAPACITOR
	C3	QCBB1HJ-102	CAPACITOR
	C4	PU60676-473	E CAPACITOR
		OR QEA40HZ-473	E CAPACITOR (DOUBLE)
	C5	QETC1AM-336	E CAPACITOR
	C6	QETC0JM-336	E CAPACITOR
	C7	QCVB1CN-103	CAPACITOR
	C8	QETC1CM-106	E CAPACITOR
	C9	QCVB1CN-103	CAPACITOR
	C10	PU57672-200	TRIMMER CAPACITOR
	C11	QCT30CH-120	CAPACITOR
	C101	QCF11HP-223	CAPACITOR
	C301	QFN31HJ-103	M CAPACITOR
	C302	QFN31HJ-333	M CAPACITOR
	C303	QFN31HJ-103	M CAPACITOR
	C304	QETC1HM-104	E CAPACITOR
	C305	QCBB1HJ-151	CAPACITOR
	L1	PU48530-101K	COIL
	L11	PU48530-271J	COIL
⚠	X1	PU60226-2	CRYSTAL RESONATOR
	SKT1	PGZ01001	IC SOCKET
	TP1	PU56008	TEST-PIN, X3(TP1-3)
	CN1	PU59555-8	CAP HOUSING
	CN3	PU58844-6	CAP HOUSING
	CN4	PU58844-12	CAP HOUSING
⚠	CP1	ICP-F10	CIRCUIT PROTECTOR

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13. OPERATION-1 BOARD ASSEMBLY <22>

	PWBA	PRK10010A1-03	OPERATION 1 BOARD ASSY
	IC1	LA7225	IC
	Q1	2SB643R	TRANSISTOR
	D1	SLR-34VC3F	LE DIODE
	R1	QRD161J-472	RESISTOR
	R2	QRD161J-332	RESISTOR
	R3	QRD161J-222	RESISTOR
	R4	QRD161J-222	RESISTOR
	R5	QRD161J-222	RESISTOR
	R6	QRD161J-472	RESISTOR
	R7	QRD161J-332	RESISTOR
	R8	QRD161J-222	RESISTOR
	R9	QRD161J-222	RESISTOR
	R10	QRD161J-102	RESISTOR
	R21	QRD161J-222	RESISTOR
	R22	QRD161J-222	RESISTOR
	R23	QRD161J-152	RESISTOR
	R24	QRD161J-102	RESISTOR
	R25	QRD161J-120	RESISTOR
	R26	QRD161J-104	RESISTOR
	R27	QRD161J-222	RESISTOR
	R28	QRD161J-104	RESISTOR
	R29	QRD161J-102	RESISTOR
	R31	PGZ01274	V RESISTOR
	R32	PGZ01274	V RESISTOR
	R33	PGZ01117	V RESISTOR
	R34	QRD161J-103	RESISTOR
	C1	QER61AM-476	E CAPACITOR
	C2	QER60JM-476	E CAPACITOR
	C3	QER61HM-225	E CAPACITOR
	C4	QER61EM-476	E CAPACITOR
	C5	QFJ41HJ-273	M CAPACITOR
	C6	QCBB1HJ-471	CAPACITOR
	L1	PU59060	TRAP COIL
	L2	PU59152-390J	PEAKING COIL
	L3	PU59152-390J	PEAKING COIL
	S1	PU57551	TACT SWITCH
	S2	PU57551	TACT SWITCH
	S3	PU57551	TACT SWITCH
	S4	PU57551	TACT SWITCH
	S5	PU57551	TACT SWITCH
	S6	PU57551	TACT SWITCH
	S7	PU57551	TACT SWITCH
	S8	PU57551	TACT SWITCH
	S9	PU57551	TACT SWITCH
	S10	PU57551	TACT SWITCH
	S11	PGZ01092	PUSH SWITCH
	S12	PU57551	TACT SWITCH
	CL1	PU59311-2	WIRE CLAMP
	HD1	PQ40795-4-2	LED HOLDER
	JA1	PU58356-2	MINI JACK
	JA2	PU58355-2	MINI JACK
	JA3	PGZ00409	PIN JACK
	CN1	PU58844-10	CAP HOUSING
	CN2	PU58844-6	CAP HOUSING
	CN3	PU58844-3R	CAP HOUSING
	CN4	PU58844-6	CAP HOUSING
	CN5	PU58844-5	CAP HOUSING
	CN6	PU58844-3	CAP HOUSING

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14. OPERATION-2 BOARD ASSEMBLY <23>

	PWBA	PRK10010A2-01	OPERATION 2 BOARD ASSY
	Q101	DTA124ES	TRANSISTOR
	Q102	DTA124ES	TRANSISTOR
	D101	SLR-55MC3F	LE DIODE
	D102	SLR-55VC3F	LE DIODE
	D103	SLR-55VC3F	LE DIODE
	R101	QRD161J-223	RESISTOR
	R102	QRD161J-103	RESISTOR
	R103	QRD161J-472	RESISTOR
	R104	QRD161J-332	RESISTOR
	R105	QRD161J-222	RESISTOR
	R106	QRD161J-331	RESISTOR
	R107	QRD161J-102	RESISTOR
	R108	QRD161J-221	RESISTOR
	R109	QRD161J-221	RESISTOR

⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	S101	PU57551	TACT SWITCH
	S102	PU57551	TACT SWITCH
	S103	PU57551	TACT SWITCH
	S104	PU57551	TACT SWITCH
	S105	PU57551	TACT SWITCH
	S106	PU57551	TACT SWITCH
	S107	PU57551	TACT SWITCH
	S108	PU57551	TACT SWITCH
	S109	PU57551	TACT SWITCH
	S110	PU57551	TACT SWITCH
	S111	PU57551	TACT SWITCH
	S112	PU57551	TACT SWITCH
	S113	PU57551	TACT SWITCH
	S114	PU57551	TACT SWITCH
	S115	PU57551	TACT SWITCH
	S116	PU57551	TACT SWITCH
	S117	PU57551	TACT SWITCH
	S118	PU57551	TACT SWITCH
	S119	PU57551	TACT SWITCH
	S120	PU57551	TACT SWITCH
	S121	PU57551	TACT SWITCH
	S122	PU57551	TACT SWITCH
	S131	PU58486-1-1	SLIDE SWITCH
	S132	PU58486-1-1	SLIDE SWITCH
	S133	PU58488-1-1	SLIDE SWITCH
	S134	PU58486-1-1	SLIDE SWITCH
	S135	PU58488-1-1	SLIDE SWITCH
	S136	PGZ00766	SLIDE SWITCH
	CL1	PU59311-2	WIRE CLAMP
	HN1	PGZ01031-02	P C SUPPORT, X3
	SCW1	SBST3006Z	SCREW, X3
	SPC1	PU50634-2	LED SPACER, X3
	CN101	PU58844-10	CAP HOUSING
	CN102	PU58844-3Y	CAP HOUSING
	CN103	PU58844-10	CAP HOUSING
	CN104	PU58844-4	CAP HOUSING
	CN105	PU58844-3	CAP HOUSING
	CN106	PU58844-5	CAP HOUSING
	CN107	PU58844-3	CAP HOUSING

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* 15. DISPLAY BOARD ASSEMBLY <27> *
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	PWBA	PRK20026B-03	DISPLAY BOARD ASSY,BR-S600E(B)
		PRK20026A-03	DISPLAY BOARD ASSY,BR-S600E
	IC1	MSC7112-01SS	IC
	IC2	MSC1146BRS	IC
	IC3	JCL0002	IC, BR-S600E(B)
	Q1	2SK658	FE TRANSISTOR
	R1	QRD161J-102	RESISTOR
	R2	QRD161J-102	RESISTOR
	R3	QRD161J-102	RESISTOR
	R4	QRD161J-273	RESISTOR
	R5	QRD161J-102	RESISTOR
	R6	QRD161J-103	RESISTOR
	R7	QRD161J-103	RESISTOR
	R8	QRD161J-103	RESISTOR
	R9	QRD161J-153	RESISTOR
	R10	QRD161J-104	RESISTOR
	R11	QRD161J-103	RESISTOR
	R12	QRD161J-101	RESISTOR
	R13	QRD161J-101	RESISTOR
	R14	QRD161J-103	RESISTOR
	R15	QRD161J-101	RESISTOR
	R16	QRD161J-101	RESISTOR
	R17	QRD161J-104	RESISTOR
	C1	QCBB1HJ-101	CAPACITOR
	C2	QER41HM-104	E CAPACITOR
	C3	QER40JM-336	E CAPACITOR
	C4	QCVB1CM-103	CAPACITOR
	C5	QER41VM-106	E CAPACITOR
	C6	QER40JM-226	E CAPACITOR
	C7	QER40JM-226	E CAPACITOR
	C8	QER41CM-106	E CAPACITOR
	C9	QFJ41HJ-223	M CAPACITOR
	C10	QFJ41HJ-333	M CAPACITOR
	C11	QCVB1CM-103	CAPACITOR
	C12	QCVB1CM-103	CAPACITOR
	C13	QER41VM-226	E CAPACITOR
	C14	QER40JM-107	E CAPACITOR
	C15	QCSB1HJ-330	CAPACITOR
	C16	QCSB1HJ-330	CAPACITOR
	C17	QCF11EZ-473	CAPACITOR
	C18	QCSB1HJ-330	CAPACITOR
	C19	QER40JM-107	E CAPACITOR
	C20	QER40JM-107	E CAPACITOR
	C101	QCF11HP-223	CAPACITOR
	L11	PU48530-271J	COIL
	FDP1	PU60660	FLUORESCENT DISPLAY PANEL
	CL1	PU59311-2	WIRE CLAMP
	HD1	PQ31309	FDP HOLDER(L)
	HD2	PQ31310	FDP HOLDER(R)
	HD3	PRD42546-02	DISPLAY SHEET
	CN1	PU58844-103Y	CAP HOUSING
	CN2	PU58844-103	CAP HOUSING
	CN3	PU58844-105	CAP HOUSING
	CN4	PU58844-103	CAP HOUSING
	CN5	PU58844-103R	CAP HOUSING
	CN6	PU58844-106	CAP HOUSING
	CN7	PU58844-107	CAP HOUSING
	CN8	PU59513-11	CONNECTOR, BR-S600E(B)

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* 16. REPEAT PLAY BOARD ASSEMBLY <28> *
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	PWBA	PGE30203A-02	REPEAT PLAY BOARD ASSY
	IC1	TC74HC4538AP	IC
	Q1	DTA124ES	TRANSISTOR
	Q2	DTA124ES	TRANSISTOR
	Q3	DTC124ES	TRANSISTOR
	Q4	2SC1740S(QRS)	TRANSISTOR
	Q5	2SC1740S(QRS)	TRANSISTOR
	Q6	2SA933S(RS)	TRANSISTOR
	Q7	2SC1740S(QRS)	TRANSISTOR
	Q8	DTC124ES	TRANSISTOR
	Q9	DTC124ES	TRANSISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	Q10	2SC1740S(QRS)	TRANSISTOR
	Q11	DTC124ES	TRANSISTOR
	Q12	DTC124ES	TRANSISTOR
	D1	1SS133	DIODE
	D2	1SS133	DIODE
	D3	1SS133	DIODE
	D4	1SS133	DIODE
	D5	1SS133	DIODE
	D6	1SS133	DIODE
	D7	1SS133	DIODE
	D8	1SS133	DIODE
	D9	1SS133	DIODE
	R1	QRD167J-103	RESISTOR
	R2	QRD167J-222	RESISTOR
	R3	QRD167J-102	RESISTOR
	R4	QRD167J-472	RESISTOR
	R5	QRD167J-472	RESISTOR
	R6	QRD167J-472	RESISTOR
	R7	QRD167J-223	RESISTOR
	R8	QRD167J-105	RESISTOR
	R9	QRD167J-103	RESISTOR
	R10	QRD167J-104	RESISTOR
	R11	QRD167J-105	RESISTOR
	R12	QRD167J-104	RESISTOR
	R13	QRD167J-563	RESISTOR
	R14	QRD161J-104	RESISTOR
	R15	QRD167J-334	RESISTOR
	R16	QRD167J-103	RESISTOR
	R17	QRD167J-105	RESISTOR
	R18	QRD167J-222	RESISTOR
	R19	QRD167J-222	RESISTOR
	R20	QRD167J-103	RESISTOR
	R21	QRD167J-104	RESISTOR
	R22	QRD167J-103	RESISTOR
	C1	QFN31HJ-103	M CAPACITOR
	C2	QETC1CM-106	E CAPACITOR
	C3	QFN31HJ-103	M CAPACITOR
	C4	QETC1EM-475	E CAPACITOR
	C5	QFN31HJ-103	M CAPACITOR
	C6	QFN31HJ-103	M CAPACITOR
	C7	QETC1CM-106	E CAPACITOR
	C8	QETC1EM-335	E CAPACITOR
	C9	QETC1EM-475	E CAPACITOR
	C10	QETC1HM-104	E CAPACITOR
	CN1	PU58844-3	CAP HOUSING
	CN2	PU58844-5	CAP HOUSING
	CN3	PU58844-2	CAP HOUSING

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* 17. 15PIN TERMINAL BOARD ASSEMBLY <30> *
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	PWBA	PGE30206A-01	15P TERMINAL BOARD ASSY, E(B)
		-15P TERMINAL 1 BOARD ASSEMBLY-	
	PWBA1	PGE30206A1-01	15P TERMINAL 1 BOARD ASSY
	IC1	TC74HC04AP	IC
	Q1	DTC124EF	TRANSISTOR
	Q2	DTC124EF	TRANSISTOR
	Q3	DTC124EF	TRANSISTOR
	Q4	DTC124EF	TRANSISTOR
	Q5	DTC124EF	TRANSISTOR
	Q6	DTC124EF	TRANSISTOR
	D1	1SS133	DIODE
	R1	QRD167J-104	RESISTOR
	R2	QRD167J-104	RESISTOR
	R3	QRD167J-104	RESISTOR
	R4	QRD167J-104	RESISTOR
	R5	QRD167J-104	RESISTOR
	R6	QRD167J-104	RESISTOR
⚠	VA1	PU49624-2	VARISTOR
⚠	VA2	PU49624-2	VARISTOR
⚠	VA3	PU49624-2	VARISTOR
⚠	VA4	PU49624-2	VARISTOR
⚠	VA5	PU49624-2	VARISTOR
⚠	VA6	PU49624-2	VARISTOR
⚠	VA7	PU49624-2	VARISTOR
	CN1	PU58844-111	CAP HOUSING
	CN2	PU58844-103	CAP HOUSING
⚠	CP1	ICP-F10	CIRCUIT PROTECTOR
		-15P TERMINAL 2 BOARD ASSEMBLY-	
	PWBA2	PGE30206A2-01	15P TERMINAL 2 BOARD ASSY
	BKT1	PRD42550	15P BRACKET
	J1	PGZ00755	15P CONNECTOR
	J2	PQ20727	JACK BOARD
	J3	PRD30402	JACK SHEET
	SCW1	SDSF3006Z	SCREW, X2

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* 18. SERVO SUB BOARD ASSEMBLY <39> *
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	PWBA	PB30095A-02	SERVO SUB BOARD ASSY
	IC1	BU3791	IC
	Q1	DTC144ES	TRANSISTOR
		OR UN4213	TRANSISTOR
		OR 2SC3399	TRANSISTOR
	Q2	DTC124ES	TRANSISTOR
	Q3	DTC144WS	TRANSISTOR
	D1	1SS133	DIODE
		OR MA165	DIODE
	R1	QRD161J-103	RESISTOR
	R2	QRD161J-104	RESISTOR
	R3	QRD161J-104	RESISTOR
	R4	QRD161J-104	RESISTOR
	R5	QRD161J-104	RESISTOR
	R6	QRD161J-822	RESISTOR
	R7	QRD161J-104	RESISTOR
	R8	QRD161J-103	RESISTOR
	R9	QRD161J-563	RESISTOR
	R10	QRD161J-472	RESISTOR
	C1	QCBB1HJ-102	CAPACITOR
	C2	QCC11CK-104	CAPACITOR
	C3	QCBB1HJ-102	CAPACITOR
	C4	QCBB1HJ-121	CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C5	QEK61AM-336	E CAPACITOR
	C6	QFN31HJ-103	M CAPACITOR
	CN1	PU59555-7	CAP HOUSING
	CN2	PU58844-7	CAP HOUSING
	CN5	PU58844-2	CAP HOUSING

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* 19. PRE/REC AMP BOARD ASSEMBLY <43> *
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	PWBA	PGE10143A	PRE/REC BOARD ASSY
	IC1	TA8609P	IC
	IC2	TA8733F	IC
	IC3	AN6392	IC
	Q1	2SC2412K	TRANSISTOR
	Q2	2SC2412K	TRANSISTOR
	Q3	2SC2412K	TRANSISTOR
	Q4	2SC2412K	TRANSISTOR
	Q6	2SC2412K	TRANSISTOR
	Q7	2SC2412K	TRANSISTOR
	Q8	2SA1037K	TRANSISTOR
	Q9	2SA1037K	TRANSISTOR
	Q10	DTC144EK	TRANSISTOR
	Q11	DTC144EK	TRANSISTOR
	Q12	DTC124EK	TRANSISTOR
	Q13	2SA1036K(R)	TRANSISTOR
	Q14	2SA1036K(R)	TRANSISTOR
	Q15	DTC124EK	TRANSISTOR
	Q16	DTC144WK	TRANSISTOR
	Q101	DTA124EK	TRANSISTOR
	Q102	DTA124EK	TRANSISTOR
	Q103	DTC144WK	TRANSISTOR
	Q104	2SA1037K	TRANSISTOR
	Q105	2SC2412K	TRANSISTOR
	Q106	2SC2412K	TRANSISTOR
	Q107	2SA1037K	TRANSISTOR
	Q108	2SC2412K	TRANSISTOR
	Q109	2SA1037K	TRANSISTOR
	Q110	DTC124EK	TRANSISTOR
	Q111	2SC2412K	TRANSISTOR
	Q112	2SC2412K	TRANSISTOR
	Q113	2SC2412K	TRANSISTOR
	Q114	2SC2412K	TRANSISTOR
	Q115	2SC2412K	TRANSISTOR
	Q116	2SC2412K	TRANSISTOR
	Q117	2SC2412K	TRANSISTOR
	Q118	2SA1037K	TRANSISTOR
	Q119	2SC2412K	TRANSISTOR
	D1	DAN202K	DIODE ARRAY
	D2	DAN202K	DIODE ARRAY
	D3	DAN202K	DIODE ARRAY
	D5	DAN202K	DIODE ARRAY
	D101	DAN202K	DIODE ARRAY
	D102	DAN202K	DIODE ARRAY
	D103	DAP202K	DIODE
	D104	MA157	DIODE
	D105	MA157	DIODE
	R1	QRSA08J-100YN	RESISTOR
	R2	QRSA08J-272YN	RESISTOR
	R3	QRSA08J-100YN	RESISTOR
	R4	QRSA08J-272YN	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R5	QRSA08J-103YN	RESISTOR
	R6	QRSA08J-100YN	RESISTOR
	R7	QRSA08J-100YN	RESISTOR
	R8	QRSA08J-272YN	RESISTOR
	R9	QRSA08J-272YN	RESISTOR
	R10	QRSA08J-103YN	RESISTOR
	R11	QVZ3531-152	V RESISTOR
	R12	QVZ3531-152	V RESISTOR
	R13	QVZ3531-152	V RESISTOR
	R14	QRSA08J-103YN	RESISTOR
	R15	QVZ3531-152	V RESISTOR
	R19	QRSA08J-122YN	RESISTOR
	R20	QRSA08J-221YN	RESISTOR
	R21	QRSA08J-102YN	RESISTOR
	R22	QRSA08J-122YN	RESISTOR
	R23	QRSA08J-221YN	RESISTOR
	R24	QRSA08J-102YN	RESISTOR
	R25	QRSA08J-122YN	RESISTOR
	R26	QRSA08J-122YN	RESISTOR
	R27	QRSA08J-103YN	RESISTOR
	R28	QRSA08J-103YN	RESISTOR
	R29	QRSA08J-393YN	RESISTOR
	R30	QRSA08J-393YN	RESISTOR
	R31	QRD161J-681	RESISTOR
	R32	QRSA08J-471YN	RESISTOR
	R33	QRSA08J-391YN	RESISTOR
	R34	QRSA08J-623YN	RESISTOR
	R35	QRSA08J-821YN	RESISTOR
	R36	QRSA08J-680YN	RESISTOR
	R37	QRSA08J-820YN	RESISTOR
	R38	QRSA08J-102YN	RESISTOR
	R39	QRSA08J-472YN	RESISTOR
	R40	QRSA08J-222YN	RESISTOR
	R41	QRSA08J-561YN	RESISTOR
	R42	QRSA08J-393YN	RESISTOR
	R43	QRD161J-222	RESISTOR
	R44	QRSA08J-393YN	RESISTOR
	R45	QRSA08J-222YN	RESISTOR
	R46	QRSA08J-103YN	RESISTOR
	R47	QRSA08J-103YN	RESISTOR
⚠	R48	PU52108-150	POSITIVE THERMISTOR
	R49	QRD161J-333	RESISTOR
	R50	QRSA08J-101YN	RESISTOR
	R51	QRSA08J-103YN	RESISTOR
	R52	QRSA08J-823YN	RESISTOR
	R53	QRSA08J-102YN	RESISTOR
	R54	QRSA08J-821YN	RESISTOR
	R55	QRSA08J-102YN	RESISTOR
	R56	QRSA08J-102YN	RESISTOR
	R101	QRSA08J-223YN	RESISTOR
	R102	QRSA08J-273YN	RESISTOR
	R103	QRSA08J-102YN	RESISTOR
	R104	QRSA08J-102YN	RESISTOR
	R105	QRSA08J-271YN	RESISTOR
	R106	PU57457-152	V RESISTOR
	R107	QRSA08J-103YN	RESISTOR
	R108	PU57457-222	V RESISTOR
	R109	QRSA08J-561YN	RESISTOR
	R110	QRSA08J-152YN	RESISTOR
	R111	QRSA08J-561YN	RESISTOR
	R112	QRSA08J-472YN	RESISTOR
	R113	QRSA08J-561YN	RESISTOR
	R114	QRSA08J-152YN	RESISTOR
	R117	QRSA08J-102YN	RESISTOR
	R118	QRSA08J-102YN	RESISTOR
	R119	QRSA08J-122YN	RESISTOR
	R120	QRSA08J-102YN	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R121	QRSA08J-102YN	RESISTOR
	R122	QRSA08J-471YN	RESISTOR
	R123	QRSA08J-561YN	RESISTOR
	R124	QRSA08J-122YN	RESISTOR
	R125	QRSA08J-102YN	RESISTOR
	R126	QRSA08J-122YN	RESISTOR
	R127	QRSA08J-222YN	RESISTOR
	R128	QRSA08J-681YN	RESISTOR
	R129	QRSA08J-101YN	RESISTOR
	R130	PU57457-682	V RESISTOR
	R131	PU57457-332	V RESISTOR
	R134	QRSA08J-102YN	RESISTOR
	R135	QRSA08J-103YN	RESISTOR
	R136	QRSA08J-223YN	RESISTOR
	R137	QRSA08J-471YN	RESISTOR
	R138	QRSA08J-102YN	RESISTOR
	R139	QRSA08J-102YN	RESISTOR
	R140	QRSA08J-392YN	RESISTOR
	R141	QRSA08J-102YN	RESISTOR
	R142	QRSA08J-682YN	RESISTOR
	R143	QRSA08J-361YN	RESISTOR
	R144	QRSA08J-561YN	RESISTOR
	R145	QRSA08J-152YN	RESISTOR
	R146	QRSA08J-332YN	RESISTOR
	R147	QRSA08J-472YN	RESISTOR
	R148	QRSA08J-184YN	RESISTOR
	R149	QRSA08J-682YN	RESISTOR
	R150	QRSA08J-184YN	RESISTOR
	R151	QRSA08J-223YN	RESISTOR
	R152	QRSA08J-102YN	RESISTOR
	R154	QRSA08J-821YN	RESISTOR
	B1	QRSA08J-0R0Y	RESISTOR, X14
	B14	QRD161J-0R0	RESISTOR
	C1	QCFA1HZ-103	CAPACITOR
	C2	PU60733-200	TRIMMER CAPACITOR
	C3	QCFA1HZ-103	CAPACITOR
	C4	PU60733-200	TRIMMER CAPACITOR
	C5	PU60733-200	TRIMMER CAPACITOR
	C6	QCFA1HZ-103	CAPACITOR
	C7	PU60733-100	TRIMMER CAPACITOR
	C8	QCFA1HZ-103	CAPACITOR
	C9	QER51HM-105	E CAPACITOR
	C10	QER51HM-105	E CAPACITOR
	C11	QER51HM-105	E CAPACITOR
	C12	QER51HM-105	E CAPACITOR
	C13	QER50JM-476	E CAPACITOR
	C14	QCFA1HZ-103	CAPACITOR
	C15	QCFA1HZ-103	CAPACITOR
	C16	QCFA1HZ-103	CAPACITOR
	C17	QCFA1HZ-103	CAPACITOR
	C18	QCSA1HJ-560	CAPACITOR
	C19	QCSA1HJ-151	CAPACITOR
	C20	QCSA1HJ-271	CAPACITOR
	C21	QER50JM-476	E CAPACITOR
	C22	QCFA1HZ-103	CAPACITOR
	C23	QCSA1HJ-331	CAPACITOR
	C24	QCSA1HJ-121	CAPACITOR
	C25	QCFA1HZ-103	CAPACITOR
	C26	QER51HM-104	E CAPACITOR
	C27	QCFA1HZ-103	CAPACITOR
	C28	QER51HM-105	E CAPACITOR
	C29	QER51HM-105	E CAPACITOR
	C30	QCFA1HZ-103	CAPACITOR
	C31	QCFA1HZ-103	CAPACITOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	C32	QER51CM-476	E CAPACITOR
	C33	QCFA1HZ-103	CAPACITOR
	C34	QFN41HJ-273	M CAPACITOR
	C35	QFN31HJ-103	M CAPACITOR
	C36	QER51HM-105	E CAPACITOR
	C37	QCSA1HJ-470	CAPACITOR
	C38	QCFA1HZ-103	CAPACITOR
	C39	QCFA1HZ-103	CAPACITOR
	C40	QCSA1HJ-7R0	CAPACITOR
	C41	QER50JM-476	E CAPACITOR
	C42	QCFA1HZ-103	CAPACITOR
	C43	QCFA1HZ-103	CAPACITOR
	C44	QCSA1HJ-121	CAPACITOR
	C45	QCSA1HJ-101	CAPACITOR
	C46	QCFA1HZ-103	CAPACITOR
	C47	QCFA1HZ-103	CAPACITOR
	C48	QCFA1HZ-103	CAPACITOR
	C49	QCFA1HZ-103	CAPACITOR
	C50	QCVB1CN-103	CAPACITOR
	C51	QCFA1HZ-103	CAPACITOR
	C52	QCFA1HZ-103	CAPACITOR
	C53	QCFA1HZ-103	CAPACITOR
	C102	QCSA1HJ-180	CAPACITOR
	C103	QCFA1HZ-103	CAPACITOR
	C104	QCSA1HJ-390	CAPACITOR
	C106	QCSA1HJ-180	CAPACITOR
	C107	QCSA1HJ-390	CAPACITOR
	C108	QCSA1HJ-120	CAPACITOR
	C109	QCSA1HJ-100	CAPACITOR
	C110	QER50JM-476	E CAPACITOR
	C111	QCFA1HZ-103	CAPACITOR
	C112	QCFA1HZ-103	CAPACITOR
	C113	QCSA1HJ-360	CAPACITOR
	C114	QCSA1HJ-220	CAPACITOR
	C115	QCSA1HJ-180	CAPACITOR
	C117	QCFA1HZ-103	CAPACITOR
	C118	QCSA1HJ-470	CAPACITOR
	C120	QCFA1HZ-103	CAPACITOR
	C121	QCFA1HZ-103	CAPACITOR
	C122	QCFA1HZ-103	CAPACITOR
	C123	QCFA1HZ-103	CAPACITOR
	C124	QCSA1HJ-681	CAPACITOR
	C125	QCFA1HZ-103	CAPACITOR
	C126	QER51HM-105	E CAPACITOR
	C127	QER51EM-475	E CAPACITOR
	C128	QCFA1HZ-103	CAPACITOR
	C129	QER50JM-476	E CAPACITOR
	C130	QCFA1EZ-104	CAPACITOR
	C131	QCSA1HJ-221	CAPACITOR
	C132	QCSA1HJ-120	CAPACITOR
	C133	QCSA1HJ-7R0	CAPACITOR
	C134	QCSA1HJ-680	CAPACITOR
	C138	QCSB1HJ-100	CAPACITOR
	L1	PU48530-101K	COIL
	L2	PU59152-181J	COIL
	L3	PU48530-101K	COIL
	L4	PU59152-820J	COIL
	L5	PU59152-101J	COIL
	L6	PU48530-101K	COIL
	L7	PU59152-4R7K	COIL
	L8	PU59152-270J	COIL
	L9	PU59152-330J	COIL
	L10	PU59152-330J	COIL
	L11	PU59152-2R2K	COIL
	L12	PU59152-100J	COIL
	L13	PU59152-150J	COIL

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	L101	PU59152-560J	COIL
	L102	PU59152-150J	COIL
	L103	PU59152-390J	COIL
	L104	PU59152-221J	COIL
	L105	PU59152-100J	COIL
	L106	PU48530-101K	COIL
	L107	PU59152-820J	COIL
	L108	PU59152-330J	COIL
	L109	PU59152-820J	COIL
	L110	PU59152-220J	COIL
	L111	PU59152-220J	COIL
	L113	PU48530-101K	COIL
	L114	PU59152-8R2J	COIL
	L115	PU59152-121J	COIL
	ETH1	PQ40433-2	EARTH LUG
	HN1	PQ42955	BOARD BRACKET
	J1	PW30109-50AAZZ7	PARALLEL WIRE
	J2	PW30109-50AAZZ7	PARALLEL WIRE
	SCW1	DPSP2606Z	SCREW, X2
	SCW2	DPSP2606Z	SCREW
	SCW3	WBS2600Z	WASHER
	SLD1	PU36485	SHIELD PLATE
	SLD2	PU36486	SHIELD CASE
	SPC1	PU59210-001	W.LOCKING SPACE, X5
	TP1	PU56008	TEST PIN, X8(TP1,3-7,GND1,2)
	CN1	PU56258-10	CAP HOUSING
	CN2	PU58844-5	CAP HOUSING
	CN3	PU58844-3R	CAP HOUSING
	CN4	PU58844-2	CAP HOUSING
	CN5	PU58844-4	CAP HOUSING
	CN6	PU58844-5	CAP HOUSING
	CN7	PU58844-3	CAP HOUSING

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20. FLYING ERASE BOARD ASSEMBLY <46>

	PWBA	PB30092A	FLYING ERASE BOARD ASSY
	Q1	2SA933S	TRANSISTOR
	Q2	2SC1741S(QR)	TRANSISTOR
	Q3	2SA933S(Q)	TRANSISTOR
	Q4	2SD639R	TRANSISTOR
	Q5	2SD639R	TRANSISTOR
	D1	UZ8.2BSC	ZENER DIODE
	D2	1SS133	DIODE
	R1	QRD161J-473	RESISTOR
	R2	QRD161J-472	RESISTOR
	R3	QRD161J-222	RESISTOR
	R4	QRD161J-473	RESISTOR
	R5	QRD161J-183	RESISTOR
	R6	QRD161J-104	RESISTOR
	R7	QRD161J-121	RESISTOR
	R8	QRD161J-104	RESISTOR
	R9	QRD161J-121	RESISTOR
	C1	QCVB1CN-103	CAPACITOR
	C2	QCC31EJ-123	CAPACITOR
	C3	QCSB1HJ-560	CAPACITOR
	C4	QCBB1HJ-820	CAPACITOR
	C5	QCVB1CN-103	CAPACITOR
	C6	QCBB1HJ-820	CAPACITOR
	C8	QCT25UJ-181	CAPACITOR
	C9	QCT05UJ-330	CAPACITOR
	L1	PU48530-560J	COIL
	L2	PU48530-3R3K	COIL
	L3	PU48530-3R3K	COIL
	L4	PU59152-101J	COIL
	T1	PU56175	S.TRANS
	SLD1	PU60779	SHIELD CASE
	SLD2	PU60781	SHIELD COVER
	SLD3	PU60780	SHIELD PLATE
	CN1	PU58844-3	CAP HOUSING
	CN2	PU58844-2R	CAP HOUSING
	CN3	PU58844-2	CAP HOUSING

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21. SERVO BOARD ASSEMBLY <48>

	PWBA	PB10152A-01	SERVO BOARD ASSY
	IC1	HD49722NT	IC
	IC2	BU2767S	IC
	Q1	DTC124ES	TRANSISTOR
		OR 2SC3400	TRANSISTOR
		OR UN4212	TRANSISTOR
	Q2	DTA124ES	TRANSISTOR
		OR 2SA1346	TRANSISTOR
		OR UN4112	TRANSISTOR
	Q3	DTA124ES	TRANSISTOR
		OR UN4112	TRANSISTOR
		OR 2SA1346	TRANSISTOR
	Q4	DTA124ES	TRANSISTOR
		OR UN4112	TRANSISTOR
		OR 2SA1346	TRANSISTOR
	Q5	DTA124ES	TRANSISTOR
		OR 2SA1346	TRANSISTOR
		OR UN4112	TRANSISTOR
	Q6	DTC144ES	TRANSISTOR
		OR 2SC3399	TRANSISTOR
		OR UN4213	TRANSISTOR
	Q7	DTA124ES	TRANSISTOR
		OR 2SA1346	TRANSISTOR
		OR UN4112	TRANSISTOR
	D1	1SS133	DIODE
		OR MA165	DIODE
	D2	1SS133	DIODE
		OR MA165	DIODE
	D3	1SS133	DIODE
		OR MA165	DIODE
	D4	1SS133	DIODE
		OR MA165	DIODE
	D5	1SS133	DIODE
		OR MA165	DIODE
	D6	1SS133	DIODE
		OR MA165	DIODE
	D7	1SS133	DIODE
		OR MA165	DIODE
	D8	1SS133	DIODE
		OR MA165	DIODE
	D9	1SS133	DIODE

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	D10	1SS133	DIODE
	D11	1SS133	DIODE
		OR MA165	DIODE
	D12	1SS133	DIODE
		OR MA165	DIODE
	D13	1SS133	DIODE
		OR MA165	DIODE
	D14	1SS133	DIODE
		OR MA165	DIODE
	D15	1SS133	DIODE
		OR MA165	DIODE
	D16	1SS133	DIODE
		OR MA165	DIODE
	D17	1SS133	DIODE
		OR MA165	DIODE
	D18	1SS133	DIODE
		OR MA165	DIODE
	D20	1SS133	DIODE
		OR MA165	DIODE
	R1	QRSA08J-682YN	RESISTOR
	R2	QRSA08J-102YN	RESISTOR
	R3	QRSA08J-155YN	RESISTOR
	R4	QRSA08J-102YN	RESISTOR
	R5	QRSA08J-103YN	RESISTOR
	R6	QRSA08J-105YN	RESISTOR
	R7	QRSA08J-102YN	RESISTOR
	R8	QRSA08J-102YN	RESISTOR
	R9	QRSA08J-102YN	RESISTOR
	R10	QRSA08J-222YN	RESISTOR
	R11	QRSA08J-273YN	RESISTOR
	R12	QRSA08J-475YN	RESISTOR
	R13	QRSA08J-333YN	RESISTOR
	R14	QRSA08J-392YN	RESISTOR
	R15	QRSA08J-153YN	RESISTOR
	R16	QRSA08J-182YN	RESISTOR
	R17	QRSA08J-105YN	RESISTOR
	R18	QRSA08J-273YN	RESISTOR
	R19	QRSA08K-395YN	RESISTOR
	R20	QRSA08J-105YN	RESISTOR
	R21	QRSA08J-273YN	RESISTOR
	R22	QRSA08J-274YN	RESISTOR
	R23	QRSA08J-393YN	RESISTOR
	R24	QRSA08J-475YN	RESISTOR
	R25	QRSA08J-334YN	RESISTOR
	R26	QRD161J-222	RESISTOR
	R27	QRSA08J-154YN	RESISTOR
	R28	QRSA08J-154YN	RESISTOR
	R30	QRD161J-102	RESISTOR
	R31	QRD161J-104	RESISTOR
	R32	QVZ3521-684	V RESISTOR
	R33	QRD161J-104	RESISTOR
	R34	QRSA08J-222YN	RESISTOR
	R35	QRSA08J-823YN	RESISTOR
	R36	QVZ3521-474	V RESISTOR
	R37	QRSA08J-103YN	RESISTOR
	R38	QVZ3521-474	V RESISTOR
	R39	QRD161J-102	RESISTOR
	R40	QRD161J-223	RESISTOR
	R41	QRD161J-334	RESISTOR
	R42	QRSA08J-103YN	RESISTOR
	R43	QRSA08J-123YN	RESISTOR
	R44	QRSA08J-822YN	RESISTOR
	R45	QRSA08J-223YN	RESISTOR
	R47	QRSA08J-123YN	RESISTOR
	R48	QRSA08J-392YN	RESISTOR
	R49	QRSA08J-123YN	RESISTOR
	R51	QRSA08J-822YN	RESISTOR

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	R52	QRSA08J-104YN	RESISTOR
	R53	QRSA08J-684YN	RESISTOR
	R55	QVZ3521-224	V RESISTOR
	R56	QRD161J-473	RESISTOR
	R57	QRSA08J-154YN	RESISTOR
	R58	QRSA08J-274YN	RESISTOR
	R59	QVZ3521-104	V RESISTOR
	R61	QRSA08J-684YN	RESISTOR
	R63	QRSA08J-104YN	RESISTOR
	B1	QRSA08J-0R0Y	RESISTOR, X13
	C1	QCC11CK-102	CAPACITOR
	C2	QEK61AM-226	E CAPACITOR
	C3	QEK61AM-226	E CAPACITOR
	C4	QCSB1HJ-150	CAPACITOR
	C5	QCC11CK-473	CAPACITOR
	C6	QCBB1HJ-102	CAPACITOR
	C7	QEK61HM-105	E CAPACITOR
	C8	QCBB1HJ-102	CAPACITOR
	C9	QCC11CK-153	CAPACITOR
	C10	QCBC1HJ-561	CAPACITOR
	C11	QCC11CK-102	CAPACITOR
	C12	QEK61HM-105	E CAPACITOR
	C13	QEK61AM-226	E CAPACITOR
	C14	QCBB1HJ-101	CAPACITOR
	C15	QCC11CK-102	CAPACITOR
	C16	QFV71HJ-274	M CAPACITOR
	C17	QFV71HJ-564	TF CAPACITOR
	C18	QFV71HJ-153	TF CAPACITOR
	C19	QEK61EM-475	E CAPACITOR
	C20	QEK61EM-475	E CAPACITOR
	C21	QEK61CM-106	E CAPACITOR
	C22	QEK61CM-106	E CAPACITOR
	C23	QFV71HJ-334	M CAPACITOR
	C24	QFV71HJ-333	M CAPACITOR
	C25	QCBB1HJ-471	CAPACITOR
	C26	QFL31HJ-682	M CAPACITOR
	C27	QFL31HJ-102	M CAPACITOR
	C28	QFV71HJ-124	M CAPACITOR
	C29	QCF31HP-223	CAPACITOR
	C30	QCBB1HJ-101	CAPACITOR
	C31	QCBB1HJ-101	CAPACITOR
	C32	QCC11CK-102	CAPACITOR
	C33	QFV71HJ-224	M CAPACITOR
	C34	QEK61AM-226	E CAPACITOR
	C35	QFV71HJ-393	M CAPACITOR
	C36	QFV71HJ-274	M CAPACITOR
	C37	QFV71HJ-124	M CAPACITOR
	C38	QFV71HJ-393	M CAPACITOR
	C39	QCBB1HJ-102	CAPACITOR
	C40	QCBB1HJ-561	CAPACITOR
	C41	QFV71HJ-474	M CAPACITOR
	C42	QCBB1HJ-102	CAPACITOR
	TH1	NTH5D223KA	THERMISTOR
		OR NTH5D223LA	THERMISTOR
	TP1	PU45908-3	TEST PIN, X2(TP1,GND)
	CN1	PU58844-4	CAP HOUSING
	CN4	PU58931-14	CAP HOUSIMG
	CN5	PU58931-12	CAP HOUSING
	CN6	PU58844-8	CAP HOUSING

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#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
			********** 22. DECK TERMINAL BOARD ASSEMBLY <51> **********
	PWBA	PB20013C1	DECK TERMINAL BOARD ASSY
	R1	QRD181J-151	RESISTOR
	R3	QRD181J-331	RESISTOR
	PS1	PU60271	PHOTO INTERRUPTER
	CN1	PU59933-17	WIRE TRAP
			********** 23. RELAY BOARD ASSEMBLY <52> **********
	PWBA	PB20013C2-02	RELAY BOARD ASSY
	C1	QCC11EJ-104	CAPACITOR
⚠	LC1	PU59736-471	N FILTER
⚠	LC2	PU59736-471	N FILTER
⚠	K1	PU60281-5	FERRITE BEADS
	WR1	PW30113-G0ABZ62	PARALLEL WIRE
	WR2 OR	PW3011B-G0ABZ62	PARALLEL WIRE
			********** 24. REC SAFETY BOARD ASSEMBLY <53> **********
	PWBA	PB20013A3	REC SAFETY BOARD ASSY
	S1	PU58644-1-3	REC SAFETY SWITCH
			********** 25. END SENSOR BOARD ASSEMBLY <54> **********
	PWBA	PB20013A4	END SENSOR BOARD ASSY
	Q1	PN268R-NC	PHOTO TRANSISTOR
	HD1	PQ31047-1-4	E.S.HOLDER
	CN1	PU59945-102	WIRE SOCKET
			********** 26. CASSETTE HOUSING BOARD ASSEMBLY <56> **********
	PWBA	PB30043	CASSETTE HOUSING BOARD ASSY
	OR	PB30097	CASSETTE HOUSING BOARD ASSY

#⚠	REF NO.	PART NO.	PART NAME, DESCRIPTION
	PT1	PN268R-NC	PHOTO TRANSISTOR
	R1	QRD162J-471	RESISTOR
	PHS1	PU58879	PHOTO INTERRUPTER
	CN1	PU58844-106	CAP HOUSING